

Patrick Nuttgens

DON'S DIARY

THURSDAY

Thousands and thousands of political scientists - old and young, established and job-hungry, numerate and literate, besuited and bejaunted - mill about the Washington Hilton as the 1984 American Political Science Association convention gets under way. Long lines queue to register for their rooms, queue to collect their badges, queue to pick up papers, queue for cups of coffee, and queue because there seemed to be a dozen people ahead of them and they surely must be queuing for something. To an Englishman reared on tutorials, small seminars, and weekend conferences of a few dozen self-picked friends, the sight of so many academics assembled in one place is terrifying and faintly improper - how can any society afford to feed so many unproductive mouths? As I meet old friends, the terror abates; soon, the whole convention dissolves into a hundred groups of the familiar and the like-minded, happily boasting one another's morale and ignoring the 99 other groups around them. This, after all, is the point of the American monster-convention - there's scant hope of anything intellectually striking happening, with almost a thousand papers to be delivered in four days, to audiences which swell and diminish as people drift from room to room in search of familiar faces and an insight into prospective employers and employees.

FRIDAY

The high point of the day is a talk by I. F. Stone, so quickly does one horror erase the memory of the last that almost nobody under the age of 30 has any notion of how important I. F. Stone's Weekly once was. For years, he was almost the only man in Washington who kept count of the disastrous Vietnam policy, and for years before that, he was one of the very few journalists uncowed by McCarthyism. Today he lays into Reagan's new-found enthusiasm for religion - "would the Lebanon be the mess it is, if it was inhabited by a bunch of atheists? It's not the godless who cause most of the trouble in the world but the godded". As deft as ever, he points out that Reagan has somehow escaped the consequences of getting 300-odd migrants blown to bits in Beirut, while Jimmy Carter's success in bringing back every one of the Iran hostages counts as failure - "politicians don't like patience; they talk as if negotiation makes you impotent". It's a great relief to see so many people listening to him; the opinion polls make it look as if everyone here has turned into some sort of conservative, leaving 75-year-olds like Izzy Stone mourning the death of American radicalism.

SATURDAY

My own paper comes and goes; the audience laughs in the right places and claps at the end - the former, a better sign of understanding and

appreciation than the latter, which might, after all, be no more than politeness and relief. Now I can tour the city, a place I haven't looked at properly since I came here a very long time ago and heard Martin Luther King's "I have a dream" speech. I used to dislike Washington a good deal in those days - it combined the lethargy of the south with the pomp and bombast of the imperial presidency. Now I'm a good deal reconciled. The new Metro is a marvellous underground completion of the oversized neo-classicism which inspired the first planners of the city; the east wing of the National Gallery is quite as beautiful as everyone says and the slow-moving lines of people walking past the Vietnam memorial are immensely moving. The memorial itself is very unlike anything else here, simply a long curving wall of polished black granite listing the names of the dead; no boasting, no apologies, just memories for the visitors who come to look for the names of their relatives or simply to wonder what they all died for.

TUESDAY

Absurdly punctual, an early fall arrives immediately after the Labor Day weekend; the sky clears, the temperature drops 30 degrees, and there's a decided chill in the morning air. The convention has dispersed and I head for Boston and New York to look up old friends. All our talk is of the impossibility of Mondale's unseating Reagan and the impossibility of anyone new to a university job getting tenure. Old jokes about the advantages of being female and black no longer seem to apply, either; one friend says that when her department proposed a scheme for maternity leave - a mere 30 days off, I may say - the men denounced it on the grounds that it would give women an unfair advantage in the race for publication and tenure by giving them a whole extra month of research time. I suppose egalitarianism might be expected to produce such weird results, but it still induces a certain gloom. Less than the prospect of four more years of Reagan, however; my expectation that he'd seem less alarming in the United States turns out to be entirely false. The papers are full of him sucking up to the most bigoted religious leaders he can find; when he's not making asinine remarks about world war three, he's encouraging anti-abortion hysteria. The idea that the politics of the most powerful country in the world will hinge on school prayers and abortion simply boggles the mind.

MONDAY

Time to give a paper on "Marxism and Morality" to an inter-disciplinary seminar at Johns Hopkins and come home. Find myself attacked by all disciplines after the paper - and since George Kelly, Jerry Schneewind and John Pocock know more about most things than I ever shall, I am relieved to find I am not wholly defenceless. American intellectual habits are more like ours than they were 20 years ago when I first opened my mouth here; then Americans were over-polite unless the argument really went against them, at which point they tended to lose their tempers. Now they seem more inclined to do without the effusiveness, salt straight in and fight for their lives without rancour - unless all I'm seeing is their astonishing readiness to accommodate the follies of foreigners, strangers and guests. At all events, it's an invigorating conclusion to the trip.

Alan Ryan

The author is a fellow of New College, Oxford.

Action plan boycott still on the cards

A compromise on the privatization of the Scottish Office action plan for 16 to 18-year-olds may not be enough to stave off a union boycott of the scheme.

Last week, the two validating bodies, the Scottish Business Education and Technical Education Councils, set out a nine-point resolution effectively putting a freeze on private sector involvement for two years.

The executive committee of the Educational Institute of Scotland's

further education section is to recommend that members accept the tender takings and call off any industrial action, but Mr Arthur Houston, the EIS further education official, warned there would be considerable opposition to this. The results of a ballot on the issue are expected by the middle of next month.

Mr Houston said the executive had voted by 13 to three to recommend acceptance, since the new compromise was the best deal which could be

Colleges get more say over courses

by Patricia Santinelli

The Business and Technician Education Council is to give colleges the right to accept or reject candidates who have not got the normal entry qualifications for its courses.

The decision was announced this week by Mr John Sellars, BTEC's chief executive, when he launched a document on policies and priorities for the 1990s which is to form the blueprint of the council's operation on national and higher national qualifications.

Mr Sellars said the decision was to make the council's operations more cost effective by improving its administration and financial control and thereby its impact on industry and colleges. He pointed out that the council would monitor closely the delegation of this authority to colleges through its moderators and the registration information submitted by them.

On entry requirements, Mr Sellars added that in tandem with City and Guilds, the council had acknowledged that the normal starting point for its national certificate and diploma would be the former Technician Education Council level II entry and the former Business Education Council entry with the occasional use of Level I.

He said that in respect of higher national qualifications the council had publicly acknowledged that the

attempt to differentiate between Level IV and V units had not in the main helped in its efforts to ensure appropriate courses or a recognized standard and credibility.

The council has identified nine other areas apart from cost effectiveness on which it intends to take early action. These were arrived at after four months of wide-ranging consultations which confirmed that no radical change was needed but that the council should take an evolutionary approach and build on what it had already achieved.

The areas for action cover relevance of provision, availability of programmes of study, core studies, interdisciplinary themes, updating the curricula learning strategies, national credibility of qualifications, external moderation and quality of standards, liaison and participation, monitoring and review.

On relevance of provision, Mr Sellars said that one of the prime aims for programmes of study was preparation for work.

He added that when considering relevance to work and the needs of industry, commerce and students, the council had concluded that there was a need for a clearer identification of core studies. Students should also develop the ability to interrelate knowledge, skills and understanding derived from different parts of the course.

The fame of Warwick University knows no bounds, although not even they would make quite the claims, and in quite the Dan Dare style, that appeared with this cartoon in the Peruvian newspaper *Linia Express*.

The caption with it translated as: "Scientists at the University of Warwick, England, using silicon, have made the miraculous idea of the blind being able to see, and the deaf hear into a reality, and they have even created an electronic nose."

In fact the "electronic nose" is a device created by a chemist, physicist and engineer at Warwick. The chemical contents of smells are analysed and recognized by computer. So the nose could recognize gas escaping in a house, or other smells which might make an environment dangerous.



Respond or resign, Sir Keith told

University non-teaching unions this week challenged Sir Keith Joseph, Secretary of State for Education and Science, to abandon his policies in line with the strategy recommendations from the University Grants Committee and the National Advisory Body - or resign.

But after expressing a guarded welcome for the advice to ministers, Mr Alastair Macrae, secretary to the central council for university non-teaching staffs, said the unions were disappointed that the strategy did not recommend changes designed to extend democracy and accountability within the UGC and NAB.

The National Union of Students criticized the UGC for failing to address either the question of student financial support or the issue of teaching quality and lecturer training.

Pay talks resume

Negotiations on university lecturers' pay are due to resume today at the instigation of the Association of University Teachers. It wants an improvement in the 4.75 per cent pay offer rejected in July in view of the arbitration award to further education teachers and the decision by an inner circle of university employers to finance a 10 per cent two-stage award to clinical academics.

Thought for food

Sir Keith Joseph, Secretary of State for Education and Science, this week opened the food studies building at Reading University. It will house the department of food science, and the National College of Food Technology, which moved from Wythenshawe, Reading in 1982.

Scruton reopens offensive

by Paul Flather

"I came here to learn. After the last pamphlet we wrote Caroline Cox was accused of not having bothered to learn." Thus Dr Roger Scruton, gadfly of the New Right, took off his jacket and watch and began his critique of peace studies at a conference last week.

He was speaking after dinner - without preparation and without, as he acknowledged, the benefit of the with the meal - on the opening day of a conference organized by the Oxford University school of peace studies, designed primarily to allow academics from Britain, the US, and Australia to swap views on how to teach the subject.

The organizers had of course anticipated some discordant views also studying the participants' list. Dr Scruton, reader in philosophy at Birkbeck College, London, had a coterie of supporters: Barbara Caroline Cox, co-author of a highly critical pamphlet this spring, Dr John Marks of North London Polytechnic; Dr Julian Lewis of the Coalition for Peace through Security; and Professor Donald Regan, professor of politics at Nottingham University.

Dr Scruton had not offered a paper and had no scheduled slot to speak. But after two sessions of heated attacks on peace studies from the group operating in a style reminiscent of a political faction, holding up from all corners to support and other's points, it was agreed to arrange for a full-blooded debate on the Scruton Attack.

The main thrust was that if peace studies was anything at all, it was an interdisciplinary course only really intelligible at postgraduate level. In his put it in his pamphlet, the subject was "intellectually tag-team". There was very little evidence, he said, that the necessary elements combining at least philosophy, history, and Game Theory, were being taught in peace studies courses.

His other main thrust - repeated at intervals throughout the conference - was that peace studies had become too politicized, in particular too identified with the Peace Movement, CND, and unilateralism, in itself tied to Soviet fronts like the World Peace Council.

The evidence he cited was that collected by Dr Lewis and others of the close links between CND and peace studies teaching in schools, and the absence in most reading lists of what he described as seminal works by Bukovsky and Solzhenitsyn.

Dr Scruton then had to field hostile comments for an hour, though the principal opposing foil fell to Dr Andrew Mack, a senior research fellow at the Australian National University, former pilot, disarmament prospector, Essex student, LSE academic, and BBC presenter, who was the scheduled.

He dismissed the argument that peace studies was "too hard" for undergraduates. "What about international relations or quantitative mechanics?" he asked. He pointed out that 82 per cent of arms races had eventually led to war, empirical evidence to contradict Dr Scruton's own belief about strong defences.

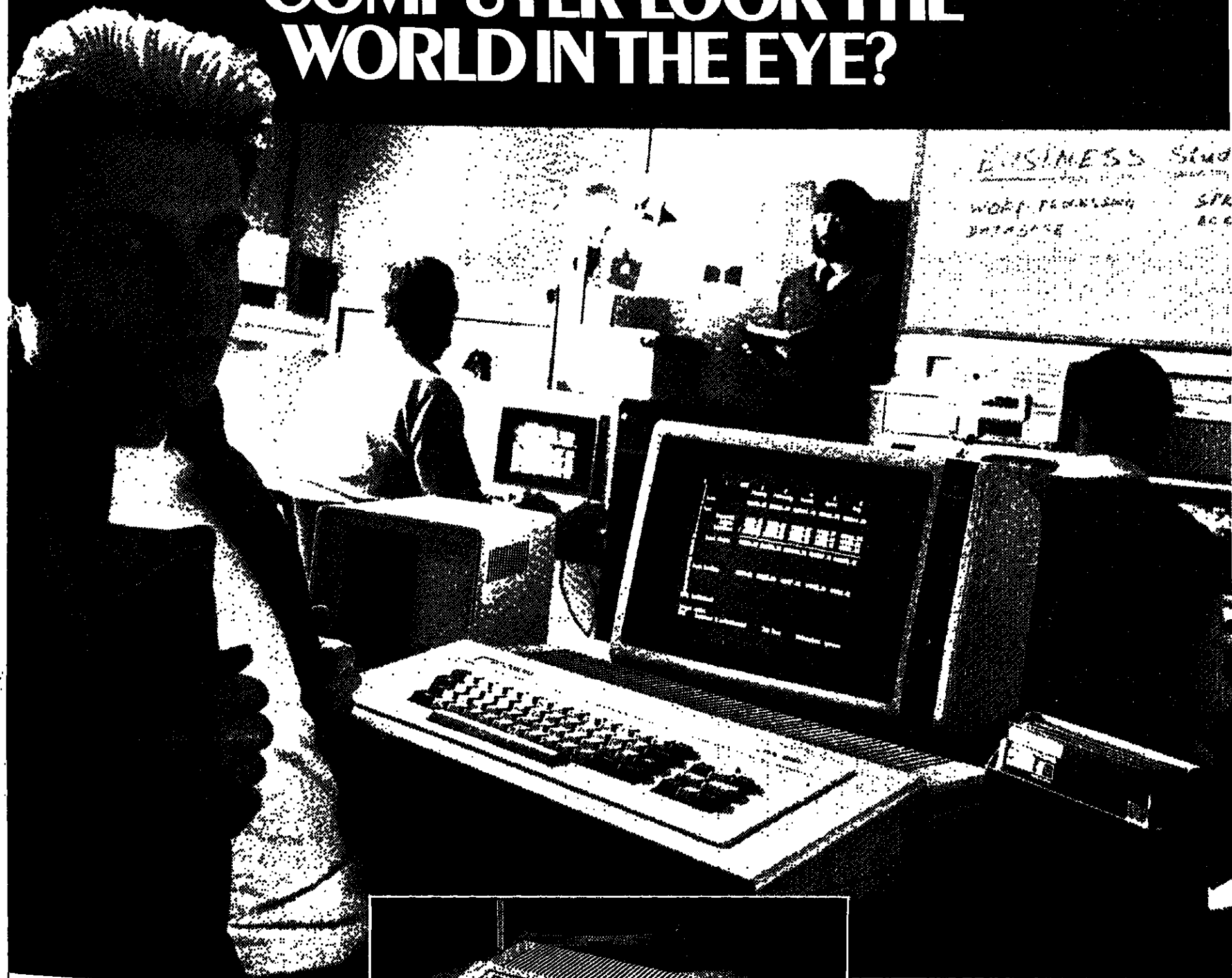
The exchanges continued Professor James O'Connell, former junior professor of peace studies at Bradford, had to summon all his skills the next day to soothe tempers after Professor Regan had accused Dr Paul Smoker of Lancaster University, Quaker-founded Richardson Institute, of bias towards "non-violence" in his teaching.

The debate is bound to continue. Next week Dr Marks publishes a new 63-page booklet entitled *Peace Studies in Our Schools: Propaganda for Defiance*, which also repeats criticism of the Bradford school. At least, both sides freely acknowledge universities are just the place for proper debate and controversy.

"We think that this is a period in which a consultative body, bringing together voluntary and non-governmental organizations with a national interest in adult education, could most positively develop mutual understanding and assessment of the contribution that is being made and of the declaration, says.

Leader, back page

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'Turn over a new leaf' publishers told

by Paul Flather

British publishers were sternly rebuked by university librarians last week for producing books with acidic paper and imperfect binding which do not last, forcing libraries to divert funds away from new purchases to conservation of existing stock.

Dr Freddie Ratcliffe, librarian at Cambridge University, told the two-day conference of the University, College and Professional Publishers' Council in Oxford that books with "built-in redundancy" were costing libraries dear. The British Library estimates it must spend up to £30m to conserve its books.

Dr Peter Hoare, librarian at Nottingham University, echoed the worries about quality. He called for books to be printed on decent alkali paper which lasts much longer, and finished with stout binding.

Much of the conference, however, was taken up with the pros and cons of the new voluntary agreement on copyright, with librarians and academics warning that restrictions on photocopying would be equivalent to an indirect tax on knowledge.

Dr Ratcliffe warned that moves to narrow the existing "fair dealing" clause in the copyright rules and to extend the scope of public lending rights to academic books would both reduce the potential for free circulation of knowledge in universities.

Professor Brian Hogan, professor of law at Leeds University, joined the fray by likening the photocopyer to a modern quill. Photocopying allowed

students to read articles where they wanted when they wanted and did little harm to sales, he said.

"What in principle is the difference between photocopying *Gianvillo Williams'* textbook on law for £20 or buying a secondhand copy for £7.50?" he asked the ranks of publishers.

"Students must have access to material they cannot reasonably be expected to purchase for themselves."

His own proposal was for a £5 per student licence fee allowing them to copy books for a year. This would raise £20,000 from Leeds, and similar sums from other universities, he said. Publishers argued this would leave them no fair way of distributing the copy royalties, however.

There was also concern about spiralling journal prices, with Dr Ratcliffe saying that perhaps two or three were really needed out of every 20 bought. Mr Robert Welham of the Royal Chemistry Society said increasing discrimination was bound to come in with current research paper far outstripping the slow growth of library budgets. He cited how the number of chemical extracts reached 5 million by 1971 and then doubled in the next 13 years alone.

Finally there was widespread concern about recent reports that VAT may be introduced on books next year. Dr Ratcliffe said such a move would be "disastrous", and Mr Philip Attenborough, president of the Publishers' Association, announced an expensive opposition campaign was being prepared.

Response awaited on copyright offer

Publishers are waiting for a response from the Committee of Vice-Chancellors and Principals on their latest offer for a voluntary agreement on the thorny issue of copyright. The CVCP has circulated universities for comments.

The new offer does not cover single copies - a major sticking point. It suggests a charge of 3p per page for multiple copying of books, and 6p

per page for multiple copying of journals. The Publishers Licensing Society is hoping a new Government code for copying, expected sometime next year, will set rates for single copying.

The society would police any agreement with spot checks in institutions. It has already reached agreements with the local authority association and a federation of 200 English language schools.

Facts and fiction of orders

Academics suggesting new book titles for order by their libraries are often vague, tend to overestimate potential readership, and cause extra problems by giving inaccurate details.

Dr Frances Pinter, the publisher, presented these findings to the conference after carrying out a private survey of university and polytechnic librarians. She sent questionnaires to 90 and received 30 replies.

She asked particularly about the grumbles they had. On publishers, they complained books were frequently announced far too early before actual publication, incorrect ISBN numbers were printed, and too many price changes - invariably upwards - took place. Also not enough good old titles were reprinted.

Booksellers caused worrying delivery delays and invoicing problems, while academics who greatly influenced acquisitions policy remained

vague and unrealistic in their knowledge of how the book trade really worked.

"I did the survey to try and provide a clearer understanding of the kind of worries librarians have," Mrs Pinter said. "I never realized how much extra work it is for a library with limited funds if an ISBN number, for example, is wrong."

She found a majority of librarians would be prepared to pay even higher monograph prices providing they were academically important, and that *The Times* and *The TLS* were cited as the best places for effective book advertising.

She also reported that about two thirds of libraries were using a new kind of approval system whereby books are put on display in libraries, often by booksellers, for academics to examine with a view of ordering. She believed this a very effective way of introducing new titles.

University income up, says UGC

by Ngao Crequer

Universities' income from research grants and contracts and services rendered to outside bodies in 1982/83 was up by 17 per cent over the previous year, according to latest University Grants Committee statistics.

The total amount was £328m, compared to £279m (at historic price levels) in 1977/78. In 1982/83 the total income of universities, including Government grants and fees, was almost £2,000m.

They spent £1,492m on general teaching and research and normal running activities, and of this 53 per cent (£790m) was spent on academic departments, 20 per cent (£296m) on the maintenance and running of premises, and 9 per cent (£129m) on academic services.

Some £75m was spent from recurrent income on pensions, including premature retirement compensation payments to lecturers retiring early under restructuring plans. This compares with £39m the previous year and 28m in 1977/78. The percentage change between 1977/78 and 1982/83 in this category is 90.3 per cent.

Another effect of restructuring has been the 38 per cent increase in part-time teaching and research staff, mainly to fill the gaps left by retiring full-timers.

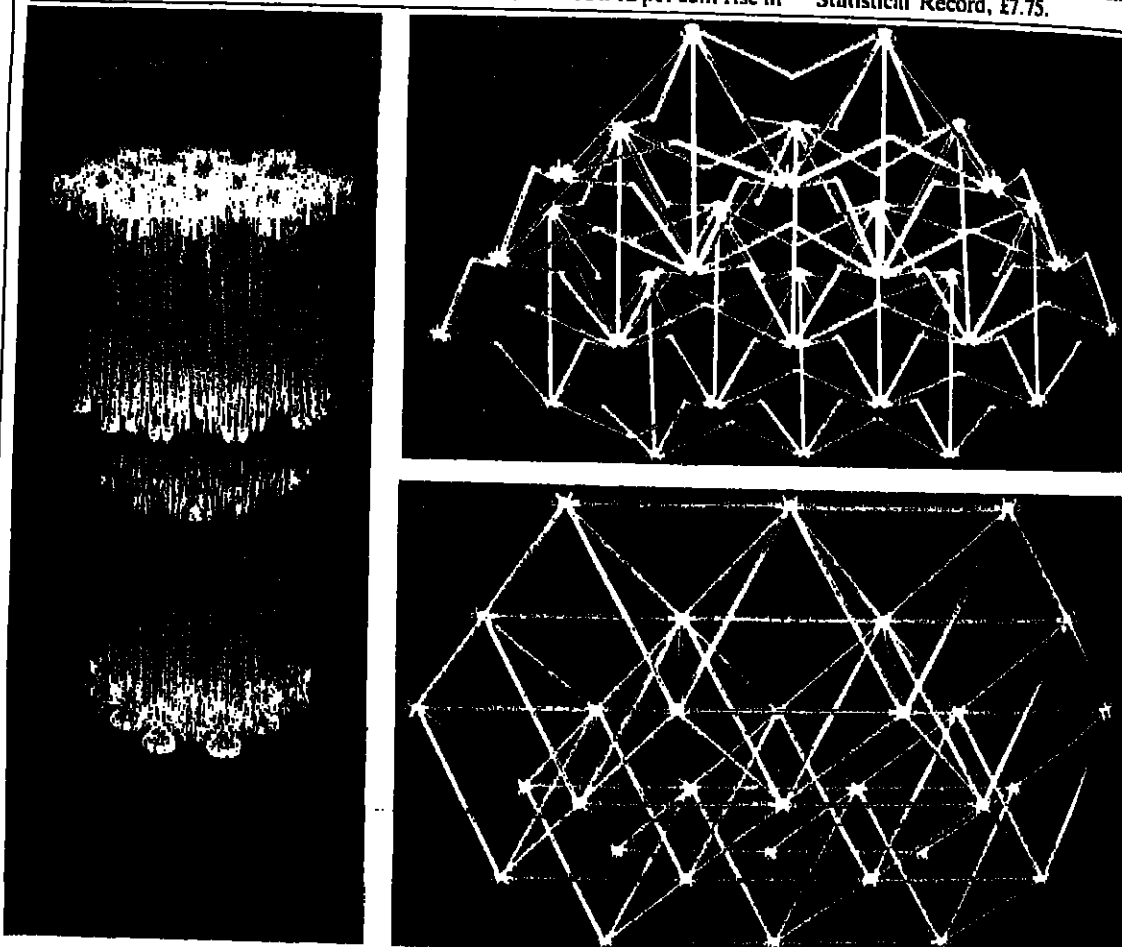
There were 2,266 part-timers in 1982, compared with 1,644 in 1981/82. The numbers of full-time teaching and research staff paid wholly from general funds went from 32,755 in 1981/82 to 30,663 in 1982/83, a drop of 6 per cent. But there was a 12 per cent rise in

those paid not wholly from general funds.

In 1982/83 the universities spent £982m (64 per cent) of their general funds on salaries and wages. Expenditure on academic staff pay fell by 2 per cent over the previous year and by the per cent for academic-related staff.

In 1982/83 science, including clinical, departments' unit equipment costs were nearly 10 times those of other departments. But recently an overall rise in relation to science department costs. There were also sharp increases in student-staff ratios in all subjects in 1982/83.

The University Grants Committee *University Statistics 1982/83*, Volume 1: Statistical Record, £7.75.



Engineers in space: this perspex model space platform was on display at Surrey University last week during an international conference on space structures. The structure, built by two civil engineers at the university, is designed to be launched inside the space shuttle, and then unfold when it has been placed in orbit. Not all "space structures" are for use in space. The term is used to denote any design which spreads load through a complete structure.

College staff fight for sea rescue

Leith Nautical College staff have condemned a report calling for half the college's courses to be axed as unobjective and inaccurate.

Last month, a working party from the Scottish Education Department and the Convention of Scottish Local Authorities produced a review of nautical education recommending that work should be concentrated in Glasgow College of Nautical Studies with the progressive closure of a number of courses over the next two years at Leith and Aberdeen technical colleges.

However, it agreed that fishing courses should be concentrated in Aberdeen for geographical reasons, and that there was a case for developing its specialization in offshore work.

But Leith's board of governors next month is to ask the COSLA to reconsider its review, taking into account the future needs of broader maritime education. And Leith's academic staff group, supported by the other college unions, is also seeking a fresh review.

Mr Alex Ward of the Association of Scientific, Technical and Managerial Staff, the chairman of the academic staff group, said: "We do not doubt the sincerity of the working party but we

feel its conclusions are based on misleading evidence."

The report showed a marked lack of objectivity, said Mr Ward, citing a comment that even pilots from the east coast had attended Glasgow courses. The pilots had to go to Glasgow because of the lack of SED funding for the course at Leith, he said.

The staff dispute the report's claim that Glasgow is better suited to nautical education, pointing out that Leith is education, pointing out that Leith is near Scotland's largest and busiest port and that the college has a long history of nautical education. They also argue that offshore courses could be run as justifiably at Leith as at Aberdeen.

Paid leave 'not Labour's top priority'

by Felicity Jones

The Labour Party's plans for one year of educational leave and paid support will not get priority in the education programme, the party's leaders have signalled.

Mr Andrew Bennett, Labour's education spokesman, told the Association for Recurrent Education conference in Sheffield last weekend that a Labour Government would make money available immediately to restore teachers' pay levels, would redistribute the Youth Training Scheme's funds and spend on nursery education.

Mr Bennett wanted to see a realistic debate opened up within the party to access through paid right to education - a principle that would be put on the back burner.

Mr Bennett implied that it would be naive to expect that education would get the kind of treatment which defence had under the present govern-

ment. He denied the Labour party was backsliding over its policies.

"The key issue is not about resources but about breaking down the bureaucracy inherent in the education system, so that we can tackle the under-use of resources," he said. He cited community schools and getting more use from existing facilities as examples.

Continuing education, for example, could not expect more money because even if it did double the present £77m it would not make much difference.

Mr Gerald Fowler, director of North-East London Polytechnic said that if planning was done only on accountability principles then everything would be less possible. An act of faith was required.

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Study shows effects of grant changes

Local education authorities have had to resort to risky, defensive budgeting and "creative accounting" techniques following the government's block grant changes, a new study has found.

Budget decisions were made for the short term, with hope that the government would change and local finance officers and political priorities gained power at the expense of education officers and mainstream developments, the Economic and Social Research Council sponsored study reports.

The study in part of an ESRC investigation into local and national government relations, in this case, focusing on education. It looks at changes in relations following the present government's introduction in 1981 of a new block grant system based on calculations of need rather than historic spending.

Interviewers in six representative local education authorities found that in order to maintain services, authorities adopted more risky strategies than they would otherwise have done, and used creative accounting techniques - such as using capital from council house sales, drawing on barter and accounting differently to fees - that might previously have been frowned upon by the financial community, the report says.

Such devices were used to avoid the new government system of imposing financial penalties for authorities spending more than their centrally-allocated target. But the report says that although penalties have forced some authorities down towards expenditure targets, they have also made authorities' priorities more "political".

Local politicians at the centre of all this, chief executives and treasurers of local authorities, have been frequently occurring indicator of the increased readiness for council members to take decisions against the advice of officers - to take more risks with the size of balances or the rate of inflation.

Outside London, a move to a small, central and influential group of councillors was clear, it continues. In outer London both boroughs studied experienced a move towards priorities that cut across all spending committees - examples given are one-parent families and ethnic minorities - rather than each committee setting its priorities. But the report points out that it is not clear whether this simultaneous change with the new grants system is a result of it or not.

To improve administration policy and practice, the report suggests central government officials should improve their understanding of how local government reaches its priorities, and should monitor non-staffing expenditure and non-statutory activities, such as nursery and adult education.

The Department of Education and Science should look for other ways of ensuring a consistent level of provision than the block grant procedure, it says.

Education and the New Block Grant, published by the Department of Education, £9.95, Gordon Square, London WC1H 0NT.

Collaboration set to reach a new peak

by Jon Turney
Science Correspondent

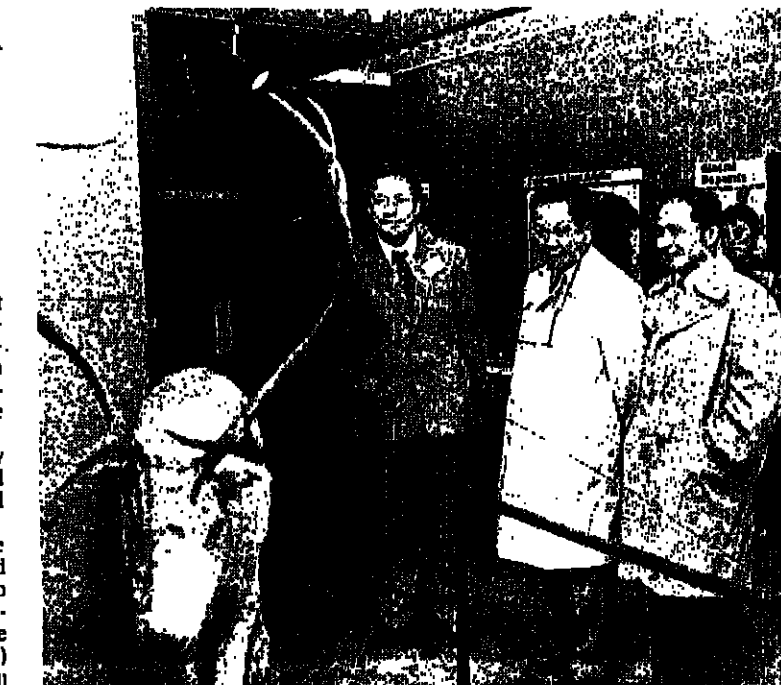
A joint geological expedition to Tibet next year is the highlight of an extensive programme of scientific collaboration between Britain and China, a special meeting of the British Association for the Advancement of Science heard in Norwich last week.

Other new projects described by Chinese and British scientists included work in laser physics, catalysis and molecular biology.

The meeting was organized by the Chinese Association for Science and Technology, which sent a delegation to the BA sponsored by the Royal Society and the British Council. The Chinese visitors (pictured above right) heard Sir Arnold Burgen, foreign secretary of the Royal Society, describe work in China as one of the most exciting collaborations now developing.

"We've passed the period of getting to know each other and are now moving to more active collaboration", he said.

Sir Arnold and Professor John Sutton of Imperial College London described how Britain's strong scientific links with China were weakened during the cultural revolution. But now scientific development was firmly installed as the most important of the "four modernizations" the Chinese were anxious to boost scientific changes. About 12,000 of China's two million scientists study abroad, at a cost of £100m a year, and there are 600



Chinese research workers in Britain.

Work in geology looked especially promising, as China had a very detailed geological survey. This meant work on oil formation, for example, could bring together Western and Chinese data, Professor Sutton said.

Professor Tsao Tienchin, a Cambridge-trained biochemist now leading the Chinese delegation as chairman of the Shanghai branch of the Chinese Academy of Sciences, said although China had the bomb, satellites and strong traditions in the life sciences, it was still a developing country scientifically.

He felt the country had much to learn from collaboration with Britain, especially in biochemistry and molecu-

lar biology. "There have been discussions and arguments as to which country we should turn to to learn biotechnology - the United States or Japan", he said. But much of the original work in this field had been done in Britain.

Sir David Phillips, chairman of the Advisory Board for the Research Councils, said international collaboration was becoming more important in his own branch of molecular biology, protein crystallography, because of the need for large new X-ray sources. But the links between working scientists were just as significant.

"I attach overriding importance to the sort of contacts between creative scientists which lead to new ideas", he said.

Hull firsts up 30 per cent

Hull University awarded 30 per cent more first class honours degrees this year than last, despite a fall in the number of candidates.

This year, 47 people gained firsts, compared with 36 in 1983. The total number of final candidates this year was 1,494, compared with 1,518 last year.

Some 29 people gained firsts in science (25 last year) with the most noticeable rises in chemistry. There were 11 firsts in the arts (seven last year) and three in law (none last year). Hull currently receives about 20 applications per place, compared to about 16 last year.

A representative of the university said the figures showed that Hull was becoming increasingly popular, and the quality of applicants was also getting better.

At least 949 students obtained firsts in polytechnics this year, compared with 888 students in 1983. Included in this year's total are 158 mature and some part-time students.

Dr Harry Law, chairman of the Committee of Directors of Polytechnics, said the considerable number of mature and part-time students obtaining firsts showed the polytechnics' strong commitment to providing higher education to the community.

'Conversations' underway

The annual "Edinburgh Conversations", informal but influential talks between leading figures from Great Britain and the Soviet Union, have been taking place in Moscow this week in a rather more restrained atmosphere than that prevailing a year ago.

This is the fourth year of the conversations, set up largely through Professor John Erickson, head of Edinburgh's defence studies department. For the second year, the small group of scientists, prominent national figures and international relations experts will include two American representatives, the former US Ambassador Mr Max Kampelman and Colonel Dr Lynn Hansen.

The nine-strong British team, led by Dr John Burnett, principal of Edinburgh University, also includes General Sir Hugh Beach, Admiral Sir James Eberle, and the Hon. Nicholas Soames, Conservative MP for Crawley.

Among those expected to participate from the USSR were the co-chairman of the conversations, Dr G. Yanayev, deputy chairman of the presidium of the Union of Soviet Friendship Society; academician G. Arbatov, director of the Institute of US and Canadian Studies; and Major General K. Mikheev.

The conversations have so far centred on the theme "survival in the nuclear age". In 1981, both sides called for nuclear arms limitations, with the 1982 conversations agreeing that conventional forces must be discussed alongside conventional weapons. Last year, a statement issued after the talks stressed that nuclear war was "irrational and unwinnable".

However, despite the significance of the Edinburgh conversations, they went largely unreported until last year when there was a furor following the Soviet Union's shooting down of the Korean airliner.

Overseas fees case may go to Lords

An overseas student who has suffered a set back in his legal battle for home fees status is considering an appeal to the House of Lords.

Last week the Appeal Court dismissed the claim by Mr Charalambos Orphanos, a Greek Cypriot, that he should have been treated as a home student for fees purposes by Queen

Mary College, London, in the wake of the Scarman judgment on awards.

He was appealing against a decision by Westminster County Court that QMC was entitled to classify him an overseas student for the 1982/83 session. Mr Orphanos alleged racial discrimination by the college, a complaint it had denied, and claimed a contractual relationship with QMC.



The two faces of academic life

During the pay negotiations this year for university non-teaching staff a central feature of the claims made by the non-teaching unions was the need for the university employers to start paying serious attention to the low paid in universities.

To the general public, universities very often have a glossy image, as a world of comparative privilege. Media publicity given to institutions like Oxford and Cambridge has led to a public perception of universities as desirable, even luxurious, places in which to work.

The reality for many thousands of university workers is very different. Among university manual workers there are 11,666 part-time workers and 848 full-time workers who are paid an hourly rate of just 183.3 pence, in other words a weekly wage for a worker of £71.50 before deductions. If one looks at the other end of the pay scale, the "highest paid" manual workers receive the magnificent sum of £87.20 for a full week's work of 39 hours. In all the universities in Britain covered by the national negotiations, only 411 full-time staff and 13 part-time staff are on this rate of pay.

Similarly, among university clerical and related staff, there are hundreds of extremely low-paid workers and the lower scales of the technical workers' grades would also fall within the TUC's definition of low pay. The trade unions, both in their separate functional negotiations and jointly through the trade side of the Central Council for Universities Non Teaching Staff, have increasingly highlighted the employers' responsibility for the perpetuation of low pay and have pointed out the moral ambiguity of institutions of higher education not accepting their responsibility for the situation as large employers of low-paid labour.

During this year's wage negotiations for manual workers, the employers' side chairman started off the negotiations in response to the trade unions' claim by firstly denying that there was a problem of low pay in universities. When this argument became untenable he argued that it was a Government responsibility and in any case was taken care of by such payments as family income supplement.

How far we were able to shift the employers' position can be shown from the employers' statement at the end of the manual workers' negotiations, where they admitted that there was a problem of low pay and entered into a commitment to jointly examine with the union over the next year the level of earnings of university manual and ancillary workers.

The university non-teaching unions feel that in the negotiations which they conducted this year they have begun to make a slight breach in the wall on the subject of low pay. They will be pressing ahead with the support of their members to remove the barrier altogether, which prevents university workers from enjoying a decent standard of living in return for the essential work they do in ensuring the maintenance of the nation's system of higher education.

Alistair J. Macrae

The author is the secretary of the trade union side of the Manual and Ancillary Workers' Council in universities and secretary of the trade union side of the Central Council for Universities Non-teaching Staff. He is national secretary of the National Union of Public Employees.

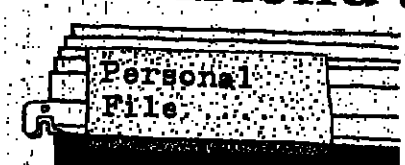
The flexible friend that has opened up new horizons

by Maggie Richards

Mr David Tinsley, new director of the Open Tech, took up his appointment on August 1. Less than two months later he is willing to admit that the unit, housed at the Manpower Services Commission headquarters in Sheffield, may not necessarily have a long-term future in its present form.

The new director, who succeeds Dr George Tolley - now appointed to head the MSC's quality branch - sees his own post and the function of the unit as very much that of a catalyst, instigating and developing open learning systems wherever they can be used to advantage.

"We are not an institution, we are a development programme," he says firmly. "Our main concern is to introduce open learning wherever feasible to solve a training problem. Our job is to help industry, colleges



and training organizations to develop new training materials using open learning as a device.

Ultimately, when instructions have fully developed their Open Tech projects Mr Tinsley feels the need for a central unit as it exists at present will be greatly diminished. Eventually widespread use of open learning systems will revolutionize traditional forms of further and higher education provision, transforming the pattern of training programmes epitomized by block and day-release sessions into a more flexible, out-reaching operation over which the institutions themselves will exert a high degree of autonomy.

At present the Open Tech, launched two years ago, is financing about 60 open learning projects in conjunction with various educational institutions. It aims to produce material to meet specific industrial demands which allow trainees to update their knowledge at a time, place and pace convenient to their own circumstances.

According to Mr Tinsley, two of the obvious benefits so far have been the extent to which costs can be curtailed by the introduction of flexible learning, and the removal of the burden of cumbersome and time-consuming administrative duties from tutors' shoulders, allowing more emphasis to be placed on the actual process of tuition.

He is aware he has joined the Open Tech at a critical moment of change. Until now the emphasis has been focused on production of open learning



Mr Tinsley: position of catalyst

from institution-based provision to involve local education authorities.

In the latest project 15 authorities have been encouraged to seek out the training needs of industry and commerce within their boundaries, and to establish new training courses based on existing Open Tech materials.

Coming from a local authority background, with experience in various sections of Birmingham's education department dating back to 1973, Mr Tinsley has a keen perception of the role local authorities will play in the growth of Open Tech projects.

Along with his technological expertise he aims to bring to the Open Tech an insistence on total familiarity with that distance learning techniques, that staff are fully aware of the technology they are encouraging their students to use.

Women make own advances

by Sara Parker

More and more women are enrolling in universities and colleges in Iraq as their men go off to fight at the front in the Gulf war.

Now, wives and sisters of those who have been killed during the four years of fighting are entitled to special concessions which make it easier for them to enter university.

It is one of those ironies that the independence of women in an Arab state, where traditionally their lives have revolved almost solely around the home, should be so influenced by one of the world's bloodiest conflicts.

There are now nearly 40,000 women in Iraq's universities and colleges, compared with just over 30,000 before the war with Iran started in September 1980. At some universities they hold up to half the lectureships. Many more are going into teacher training and women often comprise more than two thirds of the classes.

Two of the five universities in Iraq are in Baghdad, where there is also a military academy which runs university courses for ex-soldiers. There are two more in the north, at Mosul and at Erbil, and another in the south at Basra, right near the front line.

Baghdad is the oldest and was founded in the 1930s. The other university in the capital, Al-Mustansiriyah, is named after one of the world's most ancient seats of learning on the banks of the River Tigris and was founded in 1962. The other universities were built in the late 1960s and early 1970s as part of President Saddam Hussein's development programme for the country.

Education for women has always been one of his major concerns and on coming to power in 1968 he brought with him the liberal views of the Arab Ba'ith Socialist Party.

With a fiery brand of socialism founded in Syria in the 1930s, the party has been forging a path for women in a region where Muslim law dictates minimum contact with men and the wearing of a black shawl called an *abba* over the head and across the lower half of the face.

In Iraq, even before the war, there had been a drive for women to receive at least a basic

education. Nearly three-quarters of the female population - around one and half million women aged between 15 and 45 - were estimated to be illiterate when the Iraq government launched a three-year literacy campaign in 1978.

The campaign was part of a five-year plan put into action in 1974 which also introduced compulsory education for both boys and girls. This meant that every child had to go to school until they were at least 10 years old after which, depending on their ability, they could go on to elementary and secondary school in a free education system.

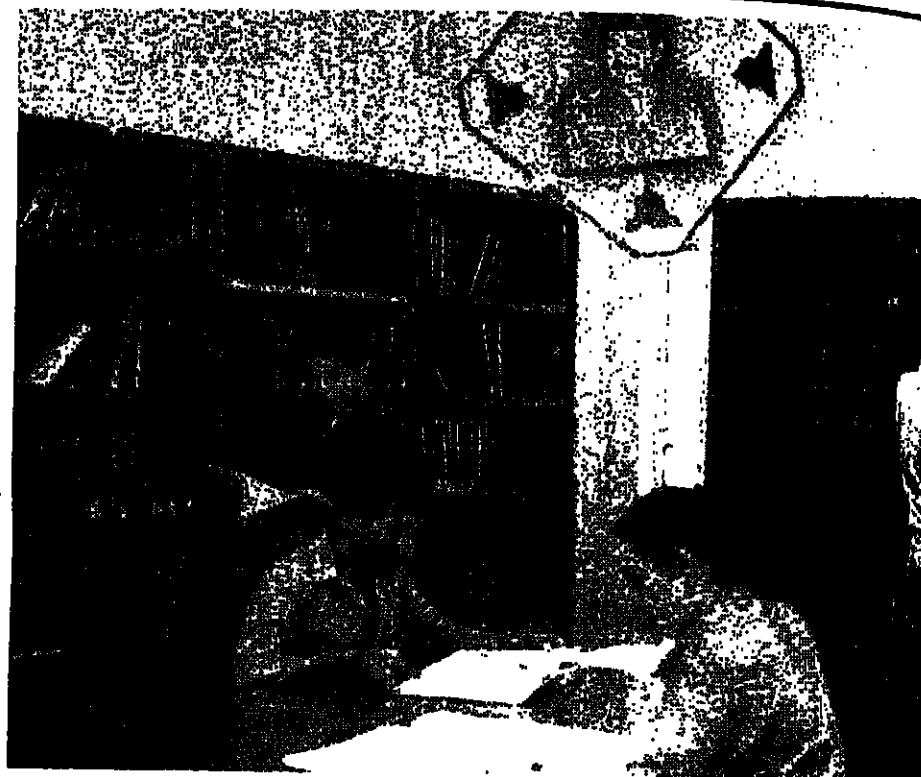
As a result the number of girls going into secondary education has more than tripled over the past 10 years, with a dramatic increase during the last four. But getting into university or higher education is still difficult and high marks must be obtained in the final exam. Only around 12 per cent of all those who attend secondary school make the grade. Yet Government figures show that although the number of women's enrolment has steadily increased during the past four years, in keeping with an improved education programme offering more places in universities and colleges, fewer men are enrolling.

Sixteen-year-old Amal Ismael's brother was killed in the first year of the fighting when he was only 22, and like the thousands of others who have died he is known as a martyr. As Amal is the sister of a martyr, the government ruling will add five points to the marks of her final qualifying exams.

She is a bright secondary school pupil but the extra marks could well make the difference between her doing her first choice at university, engineering, or taking another subject.

But not only does the Government's ruling for martyr's wives and sisters improve their chances of getting into higher education through the normal channels, it also allows for mature students. The upper age limits in universities and colleges is usually 22. And these days getting a degree or a diploma is not only important from the family's point of view because it ensures better marriage, but it can also lead to a career.

In the late 1970s, less than 17 per cent of women



Women related to dead soldiers are awarded bonus points in the entrance exam.

were in employment. Today, there are nearly 28 per cent, many of the top positions in the ministries are held by women and others are working in traditionally male-dominated areas such as engineering or agriculture.

University of college can improve the quality of her life outside working hours. Sajeda Musawi is an executive of the General Federation of Iraqi Women, a quasi-government organization set up to campaign for women's rights in education and other areas. She was one of the first of a new generation of Iraqi women who went into higher education and attended Baghdad University in

the early 1970s even though her family were very conservative in their views towards women. "My father finally supported me," said Sajeda Musawi, who until she was 20 and went to the *Abba* in keeping with the Muslim laws.

Most of the women in her class had also studied *Abba* and wore Western dress, even though the course was in religious studies and the class was mixed. It is a growth in equality for women which is comparatively unusual in the Gulf states and it is one which looks like continuing long after the war is finished - even when the men come home.

Police clash with black students

from Carolyn Dempster

JOHANNESBURG Sporadic bouts of violence in the black township of Soweto, pupil marches, protests and student boycotts at two universities marked the seventh anniversary of the death in detention of black consciousness leader Steve Biko.

In Soweto, thousands of commuters were left stranded at the outskirts of the township as busdrivers refused to enter beyond the perimeters of the sprawling residential area at dusk.

The violence began when police moved in to break up a commemorative Biko meeting by about 50 people at the Regina Mudi church in Soweto. The meeting was held in defiance of a blanket ban on all "anti-government" gatherings in the Vaal proclaimed by Louis le Grange, the minister of law and order, earlier this week.

People attending the service were dispersed with teargas and by police wielding *sjamboks* (short leather whips). Police then proceeded to pat-

rol the township while groups of youths gathered to stone commercial vehicles passing by. A number of private homes were petrol-bombed as the unrest continued throughout the night.

In Grahamstown a march by 400 to 500 youths, many of them boycotting school pupils, was halted and then dispersed by police using teargas, *sjamboks* and rubber bullets.

A protest march by 150 students in Katlehong, the black township adjoining Germiston, was also stopped before it reached the local police station and the crowd dispersed by riot police in much the same way.

Protest boycotts by university students, by comparison, have been relatively restrained and the issues have also changed from one week to another.

The University of the North (Turfloop) in the black homeland of Lebowa emptied of students following an ultimatum delivered by the rector, Professor P. C. Mokgokong, after

the big disappointment of the eighth assembly of Conference of Rectors, Presidents and Vice Chancellors of the European Universities (CRE) in Athens last week was the failure of the minister of culture to turn up at the final reception.

The minister, of course, is Melina Mercouri, of *Never on Sunday* and more recently *Elgin marbles* fame. In her place came a politician of equal standing but sadly of less charisma in the eyes of the heads of Europe's universities, Dr Yannis, the minister of research and technology.

Not that the CRE could really complain. All week its members graced under the hospitality of the Greek government and of the two host universities, and on Monday they were entertained by the prime minister himself, Mr Andreas Papandreu.

Indeed for some British participants the Greek government was



Melina Mercouri... charisma

rather too much in evidence. They smelt "politics" at every turn, at Mr Papandreu's dinner, at a visit to the

The academic as an evangelist

The image of the preacher recurred again and again in the first discussion group on "Shaping the Objectives". From the first paper given by Professor Jan Lochman, a quiet bespectacled theologian who left his native Czechoslovakia in 1968 eventually to become rector of the University of Basle, to the final report by the group's rapporteur, Professor Martin Holmström of Uppsala who made the speakers' lectern

like a pulpit, religion and ethics provided the connecting and vitalizing theme.

It was left to Dr Colin O'Hanlon of University College Galway to sound a more secular - or at any rate more ecumenical - note. Although his paper was an elegant restatement of Newman's idea of a university, he warned: "We must ensure that, believing ourselves to uphold the traditions that we value, we do not find ourselves perpetuating a myth rather than acting a reality."

In particular Dr O'Hanlon asked: "How can we persuade our own members that the questions posed by new situations can no longer be answered in terms that may be understood and accepted within the university but which may not be persuasive outside its walls?"

Lectures were to be resumed on Monday and any remaining boycotting students would be evicted from the campus, the university stated.

At the University of Fort Hare in the Ciskei homeland, where Biko's commemorative services last year led to clashes between students and the Ciskei police, a week-long peaceful boycott of meals and lectures was organized.

The boycott was originally staged as a solidarity/sympathy action after the violent rioting in Vaal townships which left 33 dead and hundreds injured. However, this week, the Fort Hare boycott continued in remembrance of Steve Biko's death in 1977.

He asked three questions; should efforts and resources continue to be concentrated on small departments or are larger multidisciplinary units more likely to be effective? Should objectives be posed in the terms of the available resources rather than pursue the assumption that persistent demands will result in their supply? And how can new initiatives be made without redeploying present resources?

Two embryonic conclusions emerge from the discussion. First, in an age when politicians measure value in "the simplifying role of money" and university freedom is justified in purely functional terms, the need to restate the objectives of the university were more necessary than ever.

Second, perhaps a paradox, new objectives did not need to be invented but the old familiar ones reaffirmed in new circumstances. Dr Albert Sloman, General's vice chancellor, repeated, in general approval, the four aims identified by the Robbins Committee two decades ago: instruction in skills, development of the general powers of the mind, advancement of knowledge; and the transmission of a common culture.

So perhaps after all the metaphor of the preacher is an accurate one. Universities know the true faith, but have to embark on a more sustained missionary campaign among the philistine

Looking at research funding

Two interlocking questions dominate every discussion of university research today: do university teachers also need to engage and (much more softly) vice versa? And how can research funding be concentrated to best economic effect without stifling unplanned initiatives?

If the answers which the third discussion group offered seemed familiar and even banal that was not necessarily the participants' fault. Yes, university teachers must also be researchers. Yes, research funding must be concentrated but every university must retain a significant capacity for research - these are not only the orthodox but perhaps the only available answer to these questions in Europe today.

Professor Guy Pouzard, president of the University of Provence in Marseilles, warned that excessive "pilgrimage" of research priorities might lead to short-term success but also produced dramatic under-development in less favoured areas of science and scholarship. This could lead to a partial suffocation of research which in the long run might prove inauspicious for all of it.

Some doubt was cast on the unbiblical cord between research and teaching by Professor Geoffrey Sims, Sheffield's vice chancellor. He agreed that univer-

technical university where they were encouraged to lay roses on the memorial to students killed on the campus during the Colonels' dictatorship, and even in Dr Yannis' innocent (but lengthy) speech on the final evening which except for a wobbly translation could have been made by any British minister in the last 25 years.

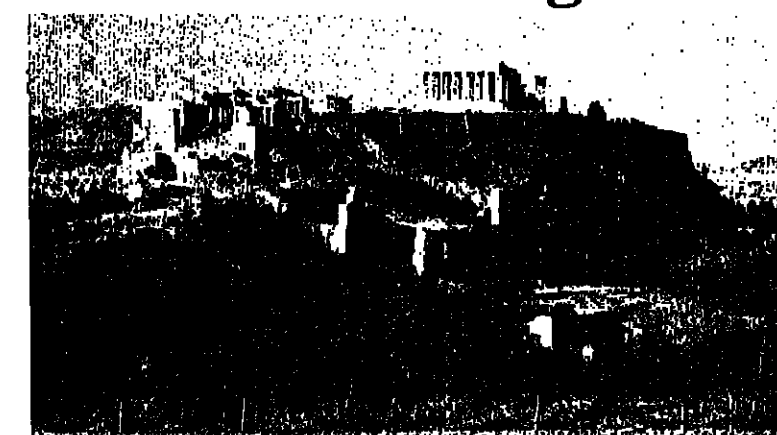
Of course there was some justification for their fear. The CRE assembly was clearly exploited for propaganda purposes by the ruling socialist government. Maybe as a result the president, Mr Karamanlis, kept his distance.

Mr Papandreu used the CRE dinner to make a television address. The rector of the technical university, a hard-line Moscow as opposed to a Euro-communist, had a very sharp

axe to grind, and one or two British vice chancellors indiscreetly absented themselves before his speech.

Part of the fear of politics could be put down to the insularity of the British who find anything but the still polite alternation of Tory and Labour rather disturbing; part to a rising concern that even British politics are becoming a much sharper and confused contest. Nostalgia for a civilized public life is deeply felt among university leaders.

But the main reason undoubtedly was that the CRE is a jittery organization when it comes to politics. The question of the participation of the communist countries - none bar Poland and Yugoslavia is a member -



sities were by definition "research led" and so all their staff should be involved in research as well as teaching. "But we know that many staff are in fact not active in research," he appealed for greater attention to be paid to the particular culture of individual disciplines within their different relationships between research and teaching.

Professor George Maniatis of Patras argued that one way to square the circle of the competing needs to concentrate research funding and to encourage all university teachers to be

researchers was to establish inter-university research centres in each discipline.

It was left to the rector of Cracow University, Professor Jazef Gierowski, to put the issue of research in a broader and more human context. Universities had to be engaged in research, he argued, because only they could protect science and scholarship from the exaggerated influence of narrow pressure groups and political elites. "Universities should remain in a sense the conscience of humanity."

Perched between two roles

The rise and rise of continuing education served as a connecting thread for the second discussion group which considered the future of teaching.

In the 1990s with fewer school-leavers and more adults in the student population universities would need to transform their teaching styles and curricula. It was generally agreed, Professor Elton Perez, rector of Madrid's National University for Distance Education, went so far as to call this "a crisis in traditional teaching".

The dilemma was explained most clearly and economically by Professor Jean Celeyrette, president of Lille III, in his paper on changing demands. He identified two groups of students: 18-year-olds for whom the university was a "parking lot" and who saw higher education as a job apprenticeship; and adult students with experience of professional life for whom the university offered intellectual recuperation.

The first wanted vocational courses and needed a tough and well-structured curriculum to combat the negative aspects of the "parking

lot" university. The latter desired more general, humanistic courses and because of their greater experience of life deserved to be treated more as equals in the constitution of the curriculum.

Another polarity identified by the group was the "push" of increasingly sophisticated knowledge which encouraged specialization and protraction of university courses and the "pull" of political and industrial expectations. Another was the possible gap between older more humanistic university staff and their younger more technocratic colleagues.

The final word with professor Theodor Berchem of Würzburg: "Curricular reform is too serious a matter to be left in the hands of experts and technocrats alone. It is essentially a philosophical question, because it presupposes a model of human beings and by implication, an agreement on the principles by which a university should be modelled."

An agreement, which he hastened to add, cannot be unanimous in a mass and pluralist society.

Tangling with the merits of autonomy and enterprise

The final two discussion groups were about power - on the lack of it. Group four's theme was "shaping the institution", group five's "redefining autonomy". Inevitably their pre-occupations became tangled.

In the former group Professor Ilkka Niiviluoto, a philosopher from Helsinki University, rejected any comparison between a university and a business enterprise because this encouraged an "externalist" perspective in its planning and development.

His claim was a bold one: "Creation of knowledge, through research, has a special status, since all the other functions of the university - such as the quality of teaching and the impact of the university on 'outside' society - depend upon its success." So all groups in the university should rally around the flag of research.

Professor Carl Wandel of Aarhus, chairman of group five, took a more pessimistic view: in discussing autonomy he argued that just as the profes-

Age of 'a new realism'

A credible but traditional defence of the university was the theme of the keynote address delivered on the first day of the congress by Professor Hervé Carrier, former rector of the Gregorian University in Rome.

The first characteristic, that of credibility, was reflected in Professor Carrier's account of the growing engagement of Europe's universities, their new commitment to mass higher education and their expanding links with business, industry and the public services.

He called this growing engagement "a new realism", and added: "It is the honour of the university to show a new type of solidarity with all the protagonists in social and economic life. Rare are those who today accuse the university of operating in an ivory tower or defending purely corporatist interests."

The second characteristic, that of tradition, was reflected in the second half of Professor Carrier's address. He insisted that the university for all its engagement had to reserve to itself "a sanctuary of liberty and a margin of autonomy" in order to fulfil its cultural mission.

"The university cannot bind itself to the pure logic of the utilitarian. In the end it would become an agency of education, the rationality and intellectual control of which would be decided by public authorities or coalitions of special interests," he warned.

"In times of crisis above all the temptation is great to resolve problems by simplifying them and if possible to reduce the university system to a component of the socio-economic system."

As well as economic logic, universities had to insist on another logic, that of analysis and of the outlook for culture. It was they who defended in the last resort the position of free intelligence in society.

Professor Carrier asserted that faculties of philosophy, humanities and theology had a particular role to play in this defence and in the definition of the fundamental issues affecting cultural survival. "The challenge is to render intentions the Greco-Roman and Judeo-Christian inheritance as well as the values of modernity which founded European culture and its universities."

Or as another British vice chancellor who had learnt a thing or two about the subject in the last year, said gazing up at the Venetian fortress of Nauplia in its precipitous rock overlooking the gulf of Argos: "That's autonomy for you!"

Research leaders exert pressure

from Peter David

WASHINGTON Strong resistance from leading research universities in the United States has persuaded the Reagan administration to drop controversial plans to restrict the publication of a wide range of scientific research papers deemed to be "sensitive" by the Department of Defence.

At a meeting with university leaders last week, Defence Department officials confirmed that the administration had decided against earlier proposals to create a new category of university research that would require departmental approval before it could be published, even though it was not formally classified.

Under present rules the Department of Defence must prove that publication would harm US security interests before it can declare a piece of research classified. Earlier this year, however, growing concern about the seepage of American technical expertise to the Soviet Union prompted the department to propose sweeping new publication restrictions on unclassified research it sponsored in the universities.

Dr Edith Martin, a senior Pentagon official and a principal architect of the new scheme, told the universities that it would be useful to establish a system of controls that fell short of formal classification but enabled the depart-

ment to prevent the publication of findings that could enhance the military efforts of the Soviet Union.

Under the scheme, defence officials would have been given the right to delay publication of research papers and, in some cases, prevent publication altogether. But the proposal led immediately to a strong protest from five leading universities, which warned that they would refuse to accept Department of Defence research contracts rather than surrender their right to publish freely.

With major institutions including Stanford University and the Massachusetts and California Institutes of Technology joining the protest, the administration decided to soften its approach. In May, Dr Martin told Congress that the government would after all continue to rely on the formal classification procedures to control the publication of fundamental research.

Even then, some university leaders expressed concern that the government's definition of fundamental research might turn out to be so narrow that controls could still be placed.

Such fears are likely to be dispelled by last week's meeting between Pentagon and university officials, however. Defence Department representatives told university officials that virtually all university research, whether basic or applied, would be regarded as "fundamental".

Senate overrules v-c to ban paedophile group

from Geoff Maslen

MELBOURNE The University of Queensland senate has overruled its vice chancellor and refused to permit a paedophile group to discuss the matter of adult-child sex on campus.

The tenth annual conference of lesbians and homosexuals was to have listened to a panel discussion by the Australian Paedophilia Support Group as one of two items about adult-child sex on the agenda.

The subject matter enraged Queensland parliamentarians, who tend to take a puritanical line on most matters to do with sex, whoever is

engaging in it.

But the vice chancellor of Queensland University, Professor Brian Wilson, at first announced the conference would go ahead with its agenda, if not its reputation, intact because he said it was not the role of universities to restrict free debate.

It shares with most people an utter abhorrence of sexual abuse of children which is reported to be one item for discussion. Professor Wilson said, But he said it was not the role of the university to act as a censor, nor was it in the long-term public interest.

The minister for education in Queensland, Mr Powell, then step-

ped in and asked the university senate to stop the conference. Mr Powell's banning of Queensland teachers from attending a similar event in Melbourne last year, caused the conference organizers to schedule the 1984 meeting in Brisbane.

Mr Powell said: "People who advocate sexual relationships between adults and children are really just plain bad news and ought to have nothing to do with children."

Then the premier of Queensland, Mr John Bjelke-Petersen, also piped up and observed: "These people no matter what they call themselves are in the eyes of the ordinary person, nothing less than child molesters."

Mr Bjelke-Petersen also called on the university senate to cancel the conference.

The premier wields extraordinary influence in his state, with independent bodies as well as political parties and the parliament. So the senate promptly held an emergency meeting to discuss Mr Powell's "bad news" and decided to overrule its vice chancellor.

The organizers decided to comply and the conference was duly held without the paedophile group. Following this, Mr Powell decided that Queensland would sack any state school teachers who publicly declared themselves to be homosexual.

Women in manual trades have to overcome an obstacle race of prejudice. Felicity Jones reports

We have become accustomed in recent years to seeing greater numbers of women holding jobs in the professions and business. During the last year Women in Science and Engineering year has focused attention on engineering.

But when it comes to the vast army of those people who work in manual trades, the experience of women as portrayed in the film *Rosie the Riveter* is still very true. They are still oddballs in a male world where the most work in the way of training and reeducation is needed to overcome the inbuilt barriers and prejudices, but where the least has been done. In an official capacity, that is.

The Construction Industry Training Board, which chooses the trainees to go on Youth Training Scheme mode A is unable to provide a definite figure but it concurs with the estimate that less than 1 per cent of those trainees are women. It has been accused of favouring young, male white trainees for the 17,000 places it controls.

It is an unhappy situation which is unlikely to be corrected solely through the distribution of non-sexist training posters and leaflets. Young women of 16 and 17 the age at which apprentices get taken on, are most vulnerable to social pressures and easily disuaded by the murky macho image that manual work tends to have.

It is for this reason that fresh impetus in non-traditional areas has come from adult women who could well have a family and expect a number of years' continuous work, as Liz Allen, women's officer of the Electrical, Electronic Telecommunication and Plumbing Union, points out.

Her members tend on the whole not to be in the construction industry, which is "one of the toughest nuts to crack". She believes that is because the companies who take on the apprentices in the first place do not believe women can do the job.

"It is hard enough for a girl to go on the factory floor in the face of that kind of attitude, let alone a building site. In the non-traditional jobs, it tends to be women who are older who are pushing for training," she said. The union has put the retraining of women as a priority and has encouraged the Manpower Service Commission to introduce a policy on sexual harassment, in its skillcentres.

The skillcentres have taken on the appearance of a battlefield following a campaign coordinated by a London-based group, Women in Manual Trades, which aimed at highlighting the fact that only 3 per cent of those attending courses at MSC skillcentres



A trainee carpenter at work in the Southwark Women's Training Workshop.

Hammering on the door

are women. There is widespread dissatisfaction with the skillcentres, according to the Women in Construction Advisory Group: "Women's experience has been horrendously disappointing," said Mary Sheil who deals with training matters. "We hear time and time again of women who are told that courses are full when in fact they are not."

Once over that hurdle, they have an interview for a place which can be equally discouraging. "There was one woman who suggested that an interviewer should become a police woman if she wanted an outdoor job. They get hostile reactions from instructors and are the victims of groping and pornographic material once they get onto the course," she said. "And even if they survive they then have to get a place on the building site."

Such criticisms are taken seriously by the MSC's adult training special group section. Mr David Lyall, the principal, said: "One of the problems is that skillcentres have dealt with skills which are traditionally male and therefore the general atmosphere at the skillcentres is male."

The MSC is planning to produce a policy statement on harassment and to widen the range of courses on offer so that more women are attracted into the skillcentres, albeit for more traditional skills such as keyboard training.

It is investigating changing the hours to allow for part-time training and the

skillcentres Training Agency has just appointed a senior manager to take responsibility for women. "We would welcome a look at the evidence of those who say that they have been told the reserve lists are closed and training places were not available," added Mr Lyall.

In other areas, the MSC is hoping that the Open Tech initiative will provide opportunities for women technicians to study at home although the evidence that women are benefitting is scant. The new *Women, Work and Training* manual which provides guidance and training materials for programme working with women has drawn much interest as have the workshops which accompany it.

It is, however, outside both the government and mainstream official education arena that the crucial initiatives have been taken with the setting up of the women's training workshops which have enabled adult women to gain entry into non-traditional work.

Lambeth Women's Workshop was the first to start in 1980 offering taster courses in woodwork and carpentry. It provides three courses a year for 16 trainees who need not have had any experience before in manual trades who follow a two day course for four months.

The trainees get a travel and childcare allowance and a lump sum at the end of the course to cover the cost of tools. And after the taste they go on to do a Training Opportunities course or

on to one of the other more advanced workshops which have sprung up.

Other workshops have been established along similar lines since then mostly getting their funding partly from the European social fund and partly from a local authority. Haringey women's training and education centre is the latest more advanced of them and provides two 12-week courses in plumbing, electrics and carpentry a year.

Southwark's workshop, which also started this year, trains women to a more advanced level to the first year of the City and Guilds certificate in carpentry and joinery. It is a full-time course and already as a result the council has agreed to take six adult women trainees onto its direct labour force.

After such courses, older women are in a much stronger position to get themselves into further education college courses and into manual work. The enrolment practices of the colleges and traditional way in which they approach the training have without doubt militated against female entrants.

A few colleges, like Hackney, have made some headway to get female trainees but they have been very much the exception. This year, however, after rigorous campaigning Vauxhall College of Building and Further Education is to run a taster course for women in building craft and a full-time course for women in painting and

decorating. Under its new head of the technical studies department, Sue Sandle, Vauxhall is also running the first women only course for those who wish to enter technical employment in construction and land use and a course being provided for the first time.

"The main problem is getting training allowances for the women. I had hoped to get them from the Greater London Training Board but because of its financial difficulties they did not come through. So we are left with discretionary grants and I have applied to the MSC to try and get training opportunities allowances," she said.

"It is true that up until now much of the impetus towards enabling women to improve their position in the construction industry has come from the women's groups, with some considerable success. But I think that the colleges are beginning to catch up."

Part of the reason why is because the YTS mode scheme includes a training block and the MSC is pressing to get further education colleges to do more craft training in the colleges. "From the woman's point of view this is good news because she can be trained outside what is still a hostile environment on a fixed site hopefully with childcare provision," said Mary Sheil.

As a member of one of the groups which have been encouraging Vauxhall, she welcomed the new course and improved facilities but regretted the fact that publicity and promotion of the course had been limited. "It is not in the college prospectus and career officers do not know anything about it."

She is concerned that a poor response might deter the college from continuing with the course in the future. Sue Sandle said the reason for the lack of publicity had been a very late decision by the college to run the course. She was optimistic that it would continue and in spite of the problems one advertisement had attracted 30 inquiries.

Case histories of women trying to enter training in manual trades in a survey carried out for a report last year by the Women's National Commission, a cabinet Office quango, supports the general depressing picture.

One woman found it took two and a half years to get onto a TOPS course and another found that she was constantly being checked up on by her supervisor while the male colleagues went unchecked. One of the recommendations of the report is that MSC staff should be better trained to make them aware that they are in fact breaching the law in cases of sex discrimination.

Dr Spector is not, however, a man for reflections on the human condition. A history PhD from Yale, he is an in-house historian for the United States Army, employed at its Center of

In October last year Dr Ronald Spector, a professional historian, was given an unusual assignment. He was called up. As a reserve officer in the United States Marine Corps he was told to get his kit together and at 36 hours' notice serve in that brief but - from the American point of view - glorious military episode, the invasion of Grenada.

As things turned out, Major Spector, who is 41, did not see combat; it was left to Rangers and airborne units to repel the Communist threat mounted by the Cubans on the island. Indeed the major's side-arm remained holstered. His orders placed in his hand another kind of weapon: a microphone.

According to a long-standing game plan, Dr Spector led a small group of marine-historians in producing an instant record of the participation of the corps in the conflict, taping the immediate recollections of military personnel and beginning to amass the huge documentation which modern warfare throws up.

His efforts produced a 90-page report, a chronicle of what went wrong. Meantime, for internal consumption it is still classified, but it is a fair bet that it is an honest, unvarnished probably painfully self-critical record - would anything else be of use in future marine training programmes?

Those adjectives apply to Dr Spector's new book, the first of a multi-volume series based on hitherto unpublished material, telling in detail the story of the American army's involvement in Vietnam. "Written to be read at West Point - and at Sandhurst and at St Cyr - it is American history at its best: scholarly and unhesitant about blaming the bad guys, whether they are to be found in Saigon, Washington, Peking, or Hanoi. The book is sure to become a must for historians charting the conflict in south-east Asia; that it is written in good narrative style makes it available to anyone interested in human folly and miscalculation, in the extraordinary identity of the Viet Cong, and in the worst of foreigners, Chinese, French, American, and in the tragedy of American military action in Vietnam, ever uncertain in purpose, and ultimately so futile."

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history took Dr Spector back to 1941, to that odd chapter in Asian history when at the same time as they were overrunning Singapore the Japanese attempted to shore up the French empire in Vietnam. His sources, he said, have predominantly been American, including the annals of the Central Intelligence Agency and the White House; to that must be added the rich trail of French military records handed over to American military attaches in Paris.

Printed south Vietnamese records are scarce - a reflection on the struggling republic's armed forces during the period between the departure of the French and 1960 when the narrative in this first volume ends. Records from General Giap and the north are even scarcer, mostly low level captured documents, Dr Spector noted.

Much of Dr Spector's material is brand new. On one side the narrator General Jean de Latre de Tassigny,

Scholar in the firing line

David Walker reports on the remarkable career of Ronald Spector, historian for the US army

Military History in Washington DC. As such his business is fact. His group on the Vietnam project is wading through tons of documents - a flow vastly expanded by the widespread deployment during the Vietnam war of Xerox machines - including parking tickets issued to military personnel in the streets of Saigon.

Typically, military history in the United States is fully professionalized: Dr Spector was recruited (his status is that of a civilian employee of the army) from a teaching post at Louisiana State University. Profiting from lessons learnt during the Second World War, the United States entered the Korean conflict with an organization of archivists and chroniclers in place - and with the knowledge that official histories can become best-sellers. The volume in the Second World War series telling the story of the taking of Okinawa became, in 1948, a popular success.

In Vietnam the Military Assistance Command in Saigon started its collection of records early in an involvement which began during the Second World War and ended, ingloriously, as marines scrambled on the embassy roof as the last American helicopter took off in 1975. To units were attached "field historians" (who were also expected to shoot) and as the volumes of documents piled up they were shipped back to Washington, first to the Department of Defense then to the giant Federal Record Center, where Dr Spector and his colleagues have spent long hours.

Philosophers of history used to wonder whether to understand Caesar fully, you had to be - or at least pretend to be - Caesar. Dr Spector said that no understatement, it helps enormously to have met him on the battlefield.

"Veterans of the conflict especially think there is something about the nature of the war in Vietnam, the 'feel' of that conflict, that is unknowable by those that did not take part."

Conscripted, Dr Spector served with the marines in Vietnam during one of



US marines in action in Grenada

the war's most trying years, 1968; he arrived as the Tet offensive was ending and it dawned on President Johnson that a military solution - within the limits he had imposed on American forces - was impossible.

Since then and especially since 1973 when the Center for Military History was charged with writing the official history of the conflict, Dr Spector's professional life has been closely bound up with understanding the war in which he took part.

"I suppose, as a veteran, I agree with the common feeling that those who served in Vietnam have not been appreciated, that the truth about the war has not been told."

"I suppose part of my job is to correct the distortions of people who presented Vietnam as a 'noble cause'. Most of all, my task as a historian is to keep people in touch with what actually happened."

The first volume in the official

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the French commander (and one of the few military men apart from the north Vietnamese to enhance their record of generalship in Vietnam) were only recently made available by his widow. On the other Dr Spector reveals from records of the American National Security Council that plans for using atomic bombs were drawn up during the siege of Dien Bien Phu.

As a historian Dr Spector and his colleagues at the centre are given complete autonomy as to method; there is an informal understanding that content must not stray too far from the specifically military. The White House has to approve the release of classified information from intelligence sources, but otherwise the historians are given a free hand with official archives - even with uncomfortable ones, like those he is now immersed in which record the extent of drug abuse among military personnel. Dr Spector's next Vietnam book is to tell the story of the GIs, "grunts", their problems of leadership and the hitherto untold tale of the anti-war movement within the army itself. Here the extensive oral history archive will prove invaluable.

The Early Years is a guide his projected book about the war and the soldier will be no less valuable to the public, American and international, still fascinated by the Vietnam war.

Dr Spector does not shrink from spelling out the lessons. In the 1950s the south Vietnamese failed to build a national army under American tutelage. This failure had been predicted in 1954 as the French were pulling out by the joint chiefs of staff when they told the then American Secretary of State, John Foster Dulles, that strong and stable governments and societies are necessary to support the creation of strong armies.

Dr Spector concludes his book by noting that the subsequent decade clearly and tragically demonstrated that the reverse is seldom true. Perhaps the lesson is timely as the American army contemplates its putative role assisting certain weak and unstable governments and societies in central America and the Caribbean.

Advice and Support. The Early Years. The US Army in Vietnam. US Government Printing Office \$11.

Intrepid explorers: Craig Charney reports on a study in north-south role reversal

Journey into darkest France

After following a group of natives on a wild hunt outside their village, an anthropologist remarked to a fellow observer: "A bizarre rite! The symbolism is strong, as is the honour, if not the *raison d'être* of the community were at stake."

A typical scene in anthropological research? In every respect but one: the villagers were French - and the researcher and African.

For the first time, a team of anthropologists from Africa is studying a European society, rather than the other way round. They have been brought to France to see how anthropological techniques work when the observer becomes the observed - and their presence has aroused heated controversy in the French anthropological community.

Nonetheless, the problems the group is confronting are ones which face anthropologists everywhere. What remains to be seen is whether its method of attacking them represents part of the future of their profession.

The project was the brainchild of Alain Le Pichon, an ethnologist at the *Maison des Sciences de l'Homme* in Paris, after his return in 1980 from 10 years' study of oral tradition in Senegal. There, close collaboration with African colleagues had convinced him of the value of studying a society from both "inside" and "outside" perspectives. He hit upon the idea of setting African researchers to work in France.

To promote interest in the approach, Dr Le Pichon helped organize a conference in Brest on the parallels between oral traditions in Celtic-speaking and African societies.

Field in June 1982, it brought together 60 specialists and students in African, Breton, and Irish studies. They discovered that they had a surprising amount to share and compare.

Afterwards, Dr Le Pichon proposed the creation of a programme to bring third world anthropologists to do research on French society. Interest was expressed by the European Commu-

ity. Unesco, the Senghor Foundation for research and research institutions in Africa, the French Ministry of External Relations and Ministry of Research agreed to grant a total of £40,000 for the first year running costs.

Through the efforts of Papa Massène Sène, director of the Dakar Cultural Archives and an old colleague of Dr Le Pichon, five experienced anthropologists from French-speaking Africa were recruited. They went to the field in May 1983. At the end of the two-year project, the results, as well as pushing what they wish as individuals.

The members of the research team have chosen projects which vary widely in theme and location. Romule Déde, from the University of Tananarive in Madagascar, is working on the rural exodus and unemployment in a village in the south west corner of France (when not observing boar hunts). Massar Diallo of Dakar's Centre for the Study of African Civilizations is examining the consultation of African magicians by Senegalese in Paris.

Dr Le Pichon, who has been a well-represented figure in the Cultural Archives, is studying the regional language in Nice. Sow Moussa, from the Human Sciences Institute in Bamako, Mali, is looking at the role of a faith healer in a village in the Médoc. Finally, Omar Ba of the Mauritanian Institute of Languages is studying the names of places, people, and ethnic groups in Bordeaux.

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eration must be two-way. The French have never been looked at themselves; there was sociology for France and ethnology for the others."

While the project may help redeem European anthropology in Africa, it also has a hidden agenda: to raise the status of African anthropologists in the eyes of their European colleagues. "Why must the best Africanists be Westerners?" asks Dr Sène. "When Africans produce publications on their continent, the confirmation of ethnologists from the north is required before they are taken seriously. Today, they want to prove their credibility in venturing on to Western terrain."

The sort of attitudes which oblige them to do so, however, helped to generate a good deal of opposition to the project among the French anthropological establishment. Vocal reservations were expressed by anthropologists at the National Centre for labs in the field. No support was forthcoming from the Ministry of National Education, either, obliging Dr Le Pichon to bundle together whatever funds he could from other sources.

In fact, it appears that behind the scenes some people were pulling strings to make things difficult for the project. Just days before the arrival of the African researchers, three of the laboratories which had agreed to serve as bases for them withdrew. CNRS people opposed the holding of a seminar on methodological issues raised by the project; eventually it had to be held at the International College of Philosophy, hardly a normal venue for such events.

The suspicions of many French anthropologists grew from their feeling that Dr Le Pichon's programme was more a gimmick than a scientific project. Some were doubtful of the qualifications of the African researchers.

Dr Diallo agrees. "Scientific coop-

others. Others regarded them as "too Western", since all had doctorates acquired either in France or under French supervision. Still others felt they were "too anti-Western", and therefore not objective. Some were concerned by what they considered the vague character of the proposal.

Even among those who agreed to meet the Africans, paternalistic attitudes were encountered several times, according to Dr Diallo. He says they were frequently taken for postgraduate students doing thesis research, and treated as such.

Despite that, he insists, the doubters do not bother him. He says: "Western anthropology was not for its part objective. The 'distant view' was the product of the disdain of one society for another."

"While having a university education, I am not alienated. I have a point of reference in my own culture." That, he maintains, is the essential factor; not whether he arrives at similar conclusions to those of his Western colleagues, but the fact that he can take an outsiders view of their culture.

Besides such academic quarrels, the programme has also met resistance due to ideological and personal rivalries. Certain Marxist economic anthropologists - well-represented in the major research institutions - turned a jaundiced eye on the project because of its implicitly functionalist approach and its backing from arch-conservative former Senegalese President Leopold Senghor. Personality clashes and academic politicking also played a role, as did a certain jealousy of the funding and media attention attracted by the ambitious young Dr Le Pichon.

Nevertheless, the programme is set to expand this year with the addition of two anthropologists from Mexico and Egypt to the team. But the ideal is to go much further, according to Dr Sène. "This is only a first step," he says. "The following step must be the establishment of mixed teams" (of first and third world anthropologists).

A partnership in production

Rebecca Eliahoo looks at efforts to promote a good relationship between industry and design education

make profits and create wealth but we find we're becoming adjuncts to polytechnics and universities who think of us as a bottomless pit and a cheap educational resource. I'm knee-deep in kids at the moment."

As this training officer points out, industry and commerce could very well become saturated with students of one kind or another. His firm is currently running in-house courses for 140 apprentices, Youth Training Schemes for 150 young people, sponsoring accountants, engineers production and marketing students through university.

But that's not all. He could be part of Sir Keith Joseph's vocational training initiative for 14- to 16-year-olds, or linked to the DES's Certificate in Pre-Vocational Education or involved with a polytechnic sandwich course, university industrial placement, Trident scheme or merely engaged in a local initiative with schools or colleges in his area.

"We have a responsibility to the young people of this country," he says firmly, "but one wonders if educationalists realize what they're asking for in terms of cash. BTEC has to be careful. They have to see where they fit in with other initiatives and what kind of resource is required."

BTEC is in the process of producing guidelines to companies for two reasons. First, they want to make sure that students take on

during the evangelical sweep of the regional meetings won't just be relegated to the post room and second, to show that students can be of benefit to the company, if used properly.

Loughborough College of Art's principal, local industry and believes students can help companies, albeit in a fairly limited capacity.

"You need a formal and informal relationship between colleges and local businesses for the placements to work properly," he says. "Invite managers and directors to the college, give them hospitality, go and see their factories or offices and build up a close rapport. When they have an empty bench or desk, then students can help out. Or if a student has a specially like technical drawing, he or she can make themselves very useful. The risk for us is that employers will offer our students jobs before they've finished their courses!"

Mr Hampson has been organizing such projects for many years. Local businessmen and designers have set simulated design projects and then gone over the results with the students. Unfortunately not all colleges are so entrepreneurial or systematic. Some large companies complain that they don't see tutors from the start of the placement to the finish. They would like college staff to come to their offices, see what constraints exist and plan the training themselves.

Eight thousand invitations are being sent out to industrialists, designers and colleges and BTEC hopes that about 100 people will turn up to each meeting. Only one meeting has been organized for a specific industry: the fashion business requested a forum of its own to be held in London when it heard about "Design by Experience".

BTEC has already commissioned several market research reports looking into what industry wants from education. "Work in colleges should be closely related to the real world," says Mr Pilditch. "We now would like industrialists to work with colleges in setting up industrial advisory groups where both sides could meet and set projects for students together."

But, say the industrialists, there's a limit to how many initiatives they can absorb. David Stanley, deputy director of the CBI's education and training department welcomes BTEC's enterprise but believes such measures should be pulled together from a central pool of direction. Supporting these tactics are too linked with education becomes inextricably linked with the fashion industry's immediate needs to the exclusion of anything else. Will students be forced to conform rather than question industry?

Mr Pilditch believes the two sides are so far apart that they run no risk of merging. "You're talking of higher national diploma students in their last year. They will have had three years to study freely and we're only proposing they spend six weeks in placement. We're trying to help them get jobs. People with very wild portfolios don't get jobs."

"There's no evidence to say that academic beginnings dictate creative excellence," says Mr James Pilditch, chairman of the Board for Design of the Business & Technical Education Council (previously known as DATEC). "Yet someone recently said to me that he throws away CVs which have DATEC qualifications as he only employs graduates. It made me very angry."

But Mr Pilditch is fighting back and his ammunition has the backing of no less than Sir Keith Joseph on the one hand and Parliamentary under secretary of state for industry, Mr John Butcher, on the other. If degree courses are perceived as the high-flying prestigious end of the educational market, then Mr Pilditch wants DATEC courses to be seen as practical, relevant and related to the real world of work.

"Our ambition," he says, "is for work experience to form a part of all DATEC courses. We're launching 'Design by Experience' this autumn to bring industry and design education closer together and persuade businessmen to take students into their companies for up to six weeks."

Next week a series of nine regional meetings will begin to which businessmen, designers and college staff are being invited in the hope that speakers like Sir Monty Fimlinton, Sir Peter Parker, Jaguar's Mr Kenneth Edwards and the British Airports Authority's Miss Jane Priestman can persuade them to host students on industrial placements.

It won't be easy. One large Lancashire company's training officer who prefers to remain anonymous explains why. "We're beginning to be concerned with the demands being made on our resources. We employ people to

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Pauline Stafford



The age of innocence is a school of hard knocks

One of the less alloyed joys of having young children is the licence it gives to indulge juvenile tastes well beyond the age of alleged maturity. It would have required an especial bravery to have stood alone in the queue waiting to see *Indiana Jones and the Temple of Doom* the other week; but chaperoning a foursome of sons and nieces I could maintain the correct air of detached boredom whilst secretly relishing the prospect of two and half hours of high-budget escapism.

I had bargained for a rerun of the *Minors' Matinee* - thrills, spills and cliff-hangers. And it was all there, from the chase through subterranean tunnels in open trucks to the inevitable fight on the moving conveyor belt leading to a rock-crusher. What I had not counted on was the extraordinary realism of the modern special effects (SFX men for the initiated) and the Spielberg readiness to fulfil children's goriest fantasies. I bled at the banquet of five snakes and cockroaches, squirmed in the tunnel ankle-deep in centipedes and worse and sickened over the quivering organ plucked from its living owner's chest.

There were, admittedly, occasional reactions to these horrors from my left. But my youngest niece sat through the whole thing unflinching, making the most of gestures by covering her eyes with a transparent drink container, and all four managed a choice of jolly babies in the interval only minutes after being treated to a helping of chilled morsels and eye-balls soup. I am willing to admit that my own nerve is breaking with age but their aplomb filled me with mingled feelings of respect and awe and apprehension. As I ushered them to the exit I could not escape the worry that I might have inadvertently encouraged homicidal tendencies, or at least dulled their nascent sensibilities. *Indiana Jones and the Temple of Doom* is surely a case for censorship, though it does illustrate how the bounds of the permissible and the possible are shifting; how technical advance poses new moral questions or old ones more sharply. The issue of censorship and children is, however, a tricky one, which has often tended to be separated from the liberal dilemmas of censorship in general.

Within that difficult area it is our conception of children and of childhood as much as the nature and effect of violence and pornography which should be under debate. Spielberg defends the horror and violence in his children's cinema by pointing out that children like it: I was myself aware of a mixed response to the children's reactions - half shock, half concealed pride.

Spielberg, I and the culture we (at least in part) share, appear to have problems in defining children. Childhood is both an age of innocence and a school of hard knocks, turning out tough little cookies capable of surviving. The apparently simple question of the age of majority evokes different answers depending on whether it is taking on a debt, getting married or entering on a homosexual relationship.

On the broader issues we seem uncertain whether, like Spielberg, we view children as mind-adults, who can and should be given what they like, or as controlled minors, rightly in submission to the authority of parents, teachers or other accredited representatives of our social norms. Uncer-

tainties over the impact of nurture, nature and psychological development, let alone over our social morality, complicate our responses, while rapid technological change has challenged easy retreat into equations of the old and the wise or the young and the foolish. A pluralist society like our own generates ambiguities and contradictions in its definitions of childhood, whether chronologically, socially or psychologically.

The question of psychological maturity, entwined as it now is with the ideal of innocence, shapes most contemporary definitions of childhood, justifying the idea of it as a protected period. Yet this view of the child as innocent, as opposed to vulnerable, may not be very old.

The notion of original sin which so long held a central position argues for a human nature tainted in its very origins. Nature such a theory was countered by the picture of the child as a *tabula rasa*, by views of the malleability of the personality and later by the Romantic image of the child as a "little savage" to be given freedom of self-expression, the conceptions of innocence as lack of experience, as the purity of the unsullied child were impossible.

Such ideas may go back little further than the seventeenth century. They received powerful reinforcement in the picture of women/family/children held up as moral bastions against a harsh nineteenth century world. Little Dorrit may appear as a saccharine product to the modern taste but she lies in a direct line of ancestry to some of our own views on childhood.

By contrast, our difficulties in defining childhood chronologically and socially appear recurrent ones. Early medieval society seems at first sight to define childhood simply by age. Girls might marry at 12, the approximate age of menarche, boys at 13, roughly that of puberty; an apparently neat demarcation determined by physiology. But age at legitimate marriage was far from being the same as social adulthood, with all that implies of the capacity to take full part in society.

Such rules were simply that - rules to define legitimacy, not necessarily norms of social behaviour or descriptions of practice. Childhood was often socially prolonged by enforced celibacy, extending adolescence and producing a medieval "youth problem".

The agonies of teenage America once drove Margaret Mead to seek a garden of Eden in Samoa. The current revival of interest in the history of childhood is unlikely to give us a reassuring picture of paradise lost. It is motivated by that desire for total history which has inspired much of the best recent historical work. The treatment and definition of children will tell us much about any society and its values.

But the stimulus to some modern study means that its products may need careful handling. *The Myth of Motherhood* was a recent French best-seller. Its argument is that idea of affection between mothers and children were looser in past days. It reflects a feminist desire to explore alternative family and social structures, to deny the universality and inevitability of the modern family with its strong physical and emotional pressures on women. It is as "political" in its stance.

The history of childhood, as of women and the family is informed by pressing current issues. As such it is an area that serious historical scholarship will ignore at its peril. If it does so not only will it marginalize its own concerns, others will plunder the past in its stead and with fewer scruples.

It is now some 12 years since *The Limits to Growth* with its prophecy of global catastrophe gripped the attention of millions of people around the world. *The Limits to Growth* - describing a computer model which had been built to simulate the behaviour of the global system - sold over three million copies and was debated by governments, academics, political parties - left and right, in the popular press and on television.

What made the prophecy unique of course, was the fact that it was not announced by eccentric-looking old men sporting billboards, but by systems analysts, by a group based at the prestigious Massachusetts Institute of Technology. They were perceived as scientists - branding computer printouts whose graphs grimly predicted nightmarish scenarios of the future. These included mass starvation, pollution crises, the exhaustion of natural resources, and the subsequent collapse of population within the coming 100 years.

A major flaw with the whole project was that it was based on extremely simplistic assumptions about the nature of the world. For example, it focused on fixed natural limits, or barriers, to global development - these being highly contentious ideas in themselves - rather than the social, economic, and political barriers which shape the world. And, as one Latin American group pointed out at the time, the misery depicted for post-2000 was already a daily reality for millions in the underdeveloped countries. As for the 1970s and 1980s, the computer model had predicted accelerating economic growth. In reality, though, the world recession, a return of the spectre of mass unemployment in the West, and falling living standards all contradicted it.

However, what is most interesting about the whole episode is not the question of the validity (or falsity) of the prediction, but the question of why it appeared credible to so many people. It appeared to strike a chord among a disparate set of groups with ostensibly conflicting beliefs, values, and political persuasions: why were so many people prepared to believe that the end of the world was at hand?

In order to try and come to grips with the *Limits* prophecy it is useful to look for explanations of similar phenomena in the hope that they might prove to be instructive. A brief look at the past helps to set the prediction in perspective: for history has been replete with self-proclaimed sages of valuing kinds who have claimed to have a special insight into the workings of the world and have sought to predict its future. From forecasts of totalitarian dystopias, divine interventions to restore moral order - typically based in fire and brimstone - to the idea of disaster issuing in the golden age of the millennium, prophecy has been a commonplace feature ever lurking in our cultural consciousness. Thus, belief in catastrophes or world transformations is not new; but what prospects exist for explaining such beliefs. Two possible sources are anthropology and psychology.

Nature is a means for talking about society

Anthropologists have argued that modern man is not alone in fearing for the safety of his environment: so-called "primitives" also worry about nature. Further, anthropologists have shown that within a given society, people will use the idea of nature and the "natural state of things" to argue for particular political arrangements. In other words, a given conception of nature is used to legitimate a given social order. Thus, nature is a means for talking about society. Turning to our modern concern for the environment, it is true enough that different groups use the question of environment to argue for, or promote, their own specific interests. From multinational corporations who advocate a simpler way of life and the reestablishment of a better balance between society and the environment, to different images of nature are used to legitimate different ends. The former saw technology as an improvement on nature and not surprisingly - tended to reject the *Limits* prediction. The latter, however, thought that technology challenged nature and upheld the prediction. Indeed, *The Limits to Growth* was part and parcel of the burgeoning environmental movement of the time.

There were a number of other reasons why the *Limits to Growth* prophecy was so successful. First, it was a prophecy. Well, firstly, it is often the case that people like to be told what is going to happen in the future. Particu-



The countdown to Doomsday

Brian Bloomfield takes a second look at *The Limits to Growth*

Thus, according to the anthropological view, those who wish to change the world may draw upon the idea of catastrophes in order to legitimate their desired ends - in this respect the *Limits* book was a useful ally. However, one difficulty with this line of reasoning is that it cannot account for a peculiar paradox which is inherent in certain strands of environmentalism, particularly "popular ecology". Namely, why is it that concern for the rational desire - or self-interest to exert some control over one's life - had such an appeal that it led many people to couch the whole issue in such terms that it appeared to be beyond politics? They did not see the future as a matter of politics, but rather, as the outcome of global forces, nature and the ecosystem.

Perceiving mankind to be at the mercy of such global forces, some suggested alternative communities or individualist survival strategies. Such a defeating because it ignores the more likely root of environmental problems. Indeed, if the world's ecosystem really was about to collapse, then running for the hills or withdrawing from society into rural communes would not help. At the best it would only postpone the inevitable. Moreover, as Nohaus argued, if disaster was just round the corner, then it was not the time to move beyond politics but, rather, to face up to excruciatingly difficult political questions about the distribution of global power.

To shed some light on this paradox, it is useful to turn to astrology and the study of astrological beliefs which Adorno conducted in the 1930s - both world modelling and astrology being concerned with predicting the future. The aim is not to try and compare them in epistemological terms, but to discuss some similar psychological aspects in their respective styles of prediction. Adorno argued that the astrological adept over-extended his or her own self-interest: it was rational to seek insight into one's life, but non-rational to suppose that the answers lay in the stars rather than here on Earth in the networks of social relationships within which any given person is immersed. Thus, here we have an interesting analogy with the paradox of environmentalism - is the self-defeating over-extension of self-interest coupled with the location of the question of the future in a realm beyond politics and everyday life.

Having identified these gross similarities, what underlying factors could be used to speculate as to their roots. Adorno argued that in the case of astrology, deep psychological needs were involved. So, can we develop our analogy a little further and suggest similar needs in the case of the *Limits to Growth* prophecy. Well, firstly, it is often the case that people like to be told what is going to happen in the future. Particu-

larly when the source is a rather abstract one, the remote stars, or an inhuman computer - with the astrologer or computer programmer appearing as neutral technicians, some people are susceptible to the notion that something, or someone has an insight into their life which they do not.

Secondly, rather than admitting that one is partly to the current or predicted state of affairs, people tend to project the causes or reasons for it onto a less painful source. Thus, the stars, or the properties of the global ecosystem and nature, provide more legitimate and therefore easier to accept causes for the woes of the future - sources which are notably divorced from the everyday world.

Thirdly, it has been observed that people often date upon images of total destruction. In fact, the messages of astrology and *The Limits to Growth* both harbour a certain element of doom: astrological forecasts hinge on a sense of foreboding, while the *Limits* message was precisely one of impending catastrophe. Speculative though this analogy is, it is nevertheless very suggestive. Indeed, similar psychological needs or susceptibilities have been posited by Cohn in his classic account of millenarian movements in the middle

Search for new beliefs to freeze the flux

But, it would be a mistake to suppose that such needs constitute a mechanistic cause of belief in either millenarianism, environmental collapse or astrology. Adorno argued that for such beliefs did not lie in the context to where one would look for answers. This brings us back to anthropology. To be sure, anthropologists would argue that where uncertainty or rapid change abound, one will find the search for new beliefs to freeze the seeming flux and anchor people in a more meaningful, certain - even though possibly ominous - view of things. For example, it has been observed that many millenarian movements occurred during times of calamity and social distress, when the social life was in disarray. As for the case of astrology, there have been a number of peaks in its popularity during periods of social upheaval - eg following the First World War. *The Limits to Growth* message too appeared during a time of considerable uncertainty and malaise - the late 1960s and early 1970s and, interestingly, the anthropologist Mary Douglas has actually suggested that environmentalism was a modern day form of millenarianism.

In summary then, these speculations suggest that while the *Limits* prophecy provided a convenient resource for those expounding ecological goals, it also played a deeper psychological role. Reflecting the social fabric of the time - in which those needs were heightened - it courted a widespread belief in world catastrophe. If history is anything to go by, we should expect similar forecasts in the future. It will be interesting to see if the lessons of the past are remembered, or whether the Doomsday syndrome will once again exert its fascinating grip.

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Literary goals in extra time

Injury time, a term borrowed from the parlance of the football field, is that unaccounted bonus period awarded by the referee when, consulting his stop-watch, he adds on to the end of allotted playing time those precious minutes when the game itself had been interrupted by injuries to players and the consequent eruption on to the field of ambulance staff and bearers of cold water, sponges, and other comforts.

It is into such "injury time" that one gratefully tethers after entering one's seventies, having completed the allotted span. For most mortals, one immediate benefit of injury time is the opportunity to discard general principles and toy a little with the accidental happenstance of small observable facts.

Thus, musing over the changes that had taken place during his long lifetime, Prime Minister Clement Attlee observed that pipe tobacco seemed to be milder than it used to be. When I myself was a boy, I would fetch from the shops pepper in a paper bag and milk in a bottle; I now find my pepper in little bottles and my milk in paper bags.

It is unflattering to the aging ego to conclude that observations such as these are more likely to survive than one's considered judgments on the state of man in his world? The amazing freshness of the diary of Samuel Pepys, 30 years after his birth, would seem to support such a notion. Nobody now would be interested in Pepys's theories about society or science, but we are strangely fascinated by the price he paid for his gloves or by his rating of meat pasties.

So it is, perhaps, that in one's teens and early twenties, one searches for opinions, attitudes, a view of the world - from *The Guardian*, maybe, or anything that will prove father wrong in his beliefs. Later, when opinions become habitual, one collects facts only from *Wittaker's Almanac*, perhaps, or some late gleanings from grandma's fading memory.

Later still, with opinions more or less set and enough facts to work with, we turn back to the artists who have passed all this through one brain, in order to create the imaginative reality of fiction. By this time we take opinions and facts alike for granted, having at least had time to eliminate those areas of thoughts (mathematics?) or things (motor-bikes?) which we know not to interest us. Our admiration is finally reserved for those few human beings who have managed to make something of it all, something that came from one individual consciousness and therefore could not have been there before.

One thing at least is certain: whether we are caught expounding theories in our youth, juggling with facts in our maturity, or turning back to one-man interpretations in our retirement, we are still - to ourselves - very recognizably the same person. We have all heard of the thin man struggling to escape from inside a fat man. But no young man is seeking escape from the old man; he is still inescapably lodged there, right up to the wrinkled skin.

One's sense of personal identity is far, far stronger than any consciousness of one's youth, maturity or oldness. I feel far more akin to myself observed that many millenarian movements occurred during times of calamity and social distress, when the social life was in disarray. As for the case of astrology, there have been a number of peaks in its popularity during periods of social upheaval - eg following the First World War. *The Limits to Growth* message too appeared during a time of considerable uncertainty and malaise - the late 1960s and early 1970s and, interestingly, the anthropologist Mary Douglas has actually suggested that environmentalism was a modern day form of millenarianism.

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S. Gorley Putt reflects on Henry James's renewed productivity in old age

whistle, James had seen the first immense instalment of his autobiography, *A Small Boy and Others*, published in New York and London a couple of weeks before his birthday, and he was already within a few months of finishing the second great chunk, *Notes of a Son and Brother*, which appeared a year later, in March 1914.

This gallantly sustained effort to make something out of his own past life, just as in his fiction he had made something out of his lifelong observation of other people, is in keeping with his oft-quoted and basically self-defensive dictum: "The artist was what he did - he was nothing else."

In fact, the last few years of his playing time had been mostly years of suffering and sorrow. His great masterpieces behind him (*The Wings of the Dove*, 1902; *The Ambassadors*, 1903; *The Golden Bowl*, 1905), he had been largely disoriented when he visited his native America in 1904-05 - a disillusion reflected in *The American Scene* (1907) and such tales as "Crazy Cornelia" (1909). The great New York edition of his laboriously revised life-long oeuvre (published 1907/09) had failed, in his own estimation, to excite the reading public or gain any proportionate financial reward. It had nevertheless represented his own pre-injury-time disposition to turn to the great art of one major practitioner as a sufficiently comprehensive summary of life's meaning - even if in his own case that great body of work had been his own.

A fresh assessment of James's astonishing effort of strenuous creative activity in tackling "the strange complexities of past and present intention in the process of revision", now nearing completion, is being made by an energetic young scholar, Philip Horne.

Horne's work, when published, will show that the sense of personal identity I have mentioned as being so much stronger than one's sense of any particular state or category of life, may shine out with an unmistakable glow even when a writer is consciously seeking to correct, to amplify, to reinterpret almost to the point of apparent contradiction or obliteration, his own earlier interpretation of that same life he is still living - that same consciousness which now prompts him (as before) to a meticulous flood of accurate impressions. The elderly writer, having "revised" himself so thoroughly, is still much more like his former self than either of them is like any other writer of, say, 1873 or 40 years earlier in 1913, the start of James's injury time.

An enlightening attempt to make significance out of one artist's presentation of life's meaning is a task which most of us must achieve through the study of another man's individual contribution. Henry James was uniquely capable, during his work on the New York edition, of exercising this illuminating therapy by the recreative study of his own work.

In 1910, exhausted by the wear and tear of discrimination when he had suffered from a physical and nervous breakdown that his nephew Harry thought that he was "facing . . . the frustration of all his hopes and wishes", and he himself confessed to a friend: "I have really been down into hell and stayed there for months . . . A return trip to America that same year with his beloved, yet overpowered, brother William, already weakened by his mortal ailment, had merely allowed Henry to stand by his brother's graveside.

One instance of the new spurt of mental health following upon James's seventieth birthday may be found in a letter of September 1913, destined for "the delightful young man from Texas", Stark Young, in which he offers two lists of his own works, each naming five titles, intended as a guide for beginners approaching the vast Henry James oeuvre. Two of his great



HENRY JAMES - BOSTONIANS F.C.

trio, *The Wings of the Dove* and *The Golden Bowl*, appear on both lists; but it seems significant that the first list also includes three of his fresher earlier works: *Roderick Hudson* (1875), *The Portrait of a Lady* (1881) and *The Princess Casanovassa* (1886).

Another outburst of emotional energy in the same seventeenth year 1913 may be documented in one of James's wonderful series of encouraging letters to the young novelist Hugh Walpole, with whom he had developed since their meeting in 1909 (when James was 66 and Walpole had just turned 25), in one of his magisterial letters that had given much emotional satisfaction to both members of this apparently ill-matched pair of novelists. Walpole, still only 29, was well launched upon his best-selling career.

It was in August of that last pre-war year that James, whose flattered responses to his young friend's attentions had never prevented him from offering candid and sometimes quite devastating critiques of the younger writer's works, included in one of his magisterial first-hand experience as the novelist's prime source: "We must know, as much as possible, in our beautiful art, yours and mine, what we are talking about - and the only way to know is to have lived and loved and cursed and flourished and enjoyed and suffered. I only regret, in my chilled age, certain occasions and possibilities I didn't embrace."

Leon Edel has shrewdly noted that of all the "merito" of the late novels, *The Wings of the Dove* is the only one who is permitted to enjoy (with both his mistress and his wife) a satisfying sexual completion, and who related this purely critical comment to the author's own release from emotional inhibitions at the time of writing. "In adumbrating a hero who no longer rationalizes away the claims of love, of physical love, James reflected the presence in his life, at the moment that he began to write, the presence of his fun-loving, Jocelyn Persse, whom James adored." It is not necessary to draw a conclusion that James's avuncular affection reached any kind of physical expression; the temporary removal from the novelist of what we might call a "mental block" would have been enough to encourage his current fictional lover Prince Amerigo to follow his blood as well as his sensibilities.

Of the precise nature of James's affection, in playing time and injury time alike, Hugh Walpole - the last

recipient of the "dearest boy" epistolary treatment - gave it as his opinion that James's "passion for his friends - Lucy Clifford, Edith Wharton, Jocelyn Persse, Mrs Prothero, among others - was the intense longing of a lonely man. It was most unselfish and noble. Feelings such as these would overflow into the work of a man whose pen was for ever in his hand."

In James's last years, such tender personal feelings could both encourage and somewhat falsify his public efforts to keep himself up to date. It was gallant of the aging master to accept in 1913 an invitation to write a long essay about the work of "the younger generation" of novelists (which saw book form in the collection *Notes on Novelists*).

True enough, he could not resist his old hobby-horse denunciation of the lack of constructional skills in the "fluid puddings" of Tolstoy and Dostoevsky, or to castigate a similar over-inclusiveness in Arnold Bennett. But one cannot help suspecting that his kind words for Edith Wharton and Hugh Walpole and Compton Mackenzie, so abundantly chewed over in contrast with his dismissive half-reference to D. H. Lawrence, owed more to personal friendship than rigorous grading.

What does stand out in these relationships is James's extraordinary talent for kindness. It was, for him, the one absolute in human relations. It had been the keynote of his piercing social criticism as it was the keynote of his personal living. "In his time . . . the best manners had been the best kindness" - it was in this phrase that he had encapsulated, in the tale "Crazy Cornelia" (1909), the standard by which he judged what he saw of selfishness, pretentiousness and sheer callousness in the London and New York of the new century.

His nephew Henry Williams's son, remembered Uncle Henry's admonition: "Three things in human life are important. The first is to be kind. The second is to be kind. And the third is to be kind." All this is in line with his elaborate efforts to praise the published work of Edith Wharton and other novelists whenever he could truthfully do so, or his outburst to a young friend that "one must do everything to invent, to force open, the door of exit from mere immersion in one's own state."

The major, shattering, implosion of James's personal and public worlds, like came with the outbreak of the Great War of 1914. Writing of the immediate aftermath of the publica-

tion in March of *Notes of a Son and Brother*, Leon Edel speaks of "the new-found emotional energies of his old age", and claims that "in spite of illness and reduced activity and much suffering, all vestiges of his old depression seem to have left him. He wanted to live . . . He worked away at the novel *The Ivory Tower*, left unfinished at his death and posthumously published in 1917 along with his other unfinished novel *The Sense of the Past*."

The remarkable vitality of *The Ivory Tower* shows James girding himself to face - and attack with the full power of his mercurial antagonism - the world of the newly-rich mixture of avarice and blatant ostentation he had found in his homeland. All the signs are that the rich hero of this book, wretchedly embarrassed by the behavior of his millionaire friends, would have become the first character in modern fiction to use his wealth for the setting up of a philanthropic foundation. Henry James, of all people, seemed set to become a pioneer of the realistic political novel, radical in sympathy and perhaps a prophet, even, of the welfare state.

It was to a battered but still valiant consciousness, then, and to a collection of "garnished wisdom" still ever watchful for new observations and new experiences, that the self-inflicted wounds of Europe at war brought blood-blinded horror. His brain and sensibility were still functioning strongly enough to feel the full blast of incredulous outrage.

In January of that fatal year, James may have written playfully to Hugh Walpole that the young novelist's last letter had flung "across my grey old path the cold glitter of youth and sport" - but it would be the surviving desire of the "grey old path" to be so invaded by the "cold glitter of youth" that really characterized the wartime months of James's injury time.

It was that same desire that, on the onset of war, so incensed him that he could write: "I loathed so having lived on and on into anything so hideous and horrible," yet at the same time sustained him in heroically vigorous efforts to contribute to the cause of his adopted country the extraordinary residue of intellectual power still available to him.

There are enough surviving records of James's "war effort" between August 1914 and his death in February 1916 to support Lubbock's splendid claim. His essays posthumously collected in the volume *Within the Rim* (1918) recall his practical aid to "Refugees in Chelsea" and "The American Volunteer Motor-Ambulance Corps in France", and the offering of his own patient sympathetic (and, one guesses, sometimes mystifying) conversation and willingness to listen to the talk of wounded soldiers in hospital.

With another part of his mind he had been distilling to his amanuensis during the first few months of the war the opening chapters of what had been designed as the third volume of autobiography (posthumously published in 1917 as *The Middle Years*). And even when he had laid aside the unfinished *The Ivory Tower* as a commentary on the contemporary world too painful to continue when that very world was engaged in self-slaughter, there was still enough residual habit of energy left for him to try, well into the second year of the terrible year 1915, to add more chapters to the pseudo-historical semi-mythical fantasy *The Sense of the Past*. It was as if the wearied and wounded mind, occluded by present nightmarish violence, could still flicker a little with miasmal memories from the other extreme of the great continuum of life.

What one finally learns is simply that the history of human gallantry needs not to be restricted to the busy activities of chronic over-achievers. Thus, although James led no armies and sat in no Cabinet, he showed throughout his life an amazingly tough stamina, physical and mental, which alone could have supported "the wear and tear of discrimination". He organized an increasingly complicated professional and personal life with unaided competence.

Henry James may later have sketched several portraits of ineffectual aesthetes; he was certainly never one of them himself. Throughout his life, James was by instinct a radical; by temperament he was a gentleman; by profession he was an artist. Yet it is surely significant that during his death-bed delirium, this disciplined artist of the sensibilities imagined himself to be - not Flaubert, but Napoleon!

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Alan Gilbert laments the decline in Britain's commitment to the financing of overseas research

Without a care in the world...

The British have never been much impressed by foreigners. The success of the industrial revolution and the creation of the Empire merely accentuated existing feelings of superiority. Many twentieth-century Britons continue to suffer from this delusion. Certainly the British have gradually become more cosmopolitan, accepting that French wine and cooking have certain virtues, that perhaps Germans work hard, and that there might be something effective about Japanese industrial organization, but large swathes of the globe are still excluded from our sympathy and understanding. This tendency, has been accentuated recently by current trends in public spending on research concerned with foreign places.

A country of the size and importance of Great Britain ought to be extensively involved in research overseas. Such research may or may not prove to be immediately relevant, that seductively attractive in-word. It may not resolve the problems of the third world, it may not directly improve our relationships with Libya or China, it may not improve productivity in British industry or resolve our racial problems. Nevertheless, for a country with the tradition and wealth of Britain understanding foreign places and people would seem a national imperative. Understanding does not guarantee progress but few civilized peoples can deny that it must help.

Unfortunately, it seems as if a major component of research on overseas areas is in steep decline. Recent evidence on the funding of social science research strongly supports this contention; the commitments to overseas research by two major institutions, the Economic and Social Research Council and the Overseas Development Administration, have fallen steeply during the past few years.

The ESRC is the largest supporter of social and economic research projects in this country; the ODA is a major funder of development research. Between them the two agencies support a substantial share of the major research projects carried out overseas.

An analysis of funds made available by these two institutions over the past few years presents a dismal picture. In real terms, the ODA's total budget for research and development in 1974/75 was 2.7 times larger than that for 1981/82. Spending on economic and social research fell slightly more slowly but was still a mere 38 per cent of the equivalent sum in 1974/75. The ODA claims that good research proposals have not actually been rejected; but even if we accept that statement at its face value it is clear that new initiatives have been thin on the ground and the criteria of what constitutes good research have most certainly been tightened. In other circumstances there is little doubt that more, worthwhile research could have been funded by the ODA.

ESRC funding for projects specifically concerned with overseas areas has declined dramatically during the past five years, according to statistics published in *Research supported by the Social Science Research Council for the years 1977 and 1982*. This source lists all projects funded by the ESRC and provides enough information to group projects according to their geographical area of interest. Projects which specifically noted a concern with overseas areas were grouped into continental categories. Any project that did not state that it was concerned with overseas areas was left in the residual, majority, category. Of course, this method is inaccurate insofar as some projects are genuinely international and of interest and relevance to a wide range of places and peoples. However, this is not the case for the vast majority of non-overseas work. Much of this research was concerned specifically with the British Isles and few projects seemed of direct interest to most foreign countries.

The fact that data were drawn from two annual registers should not be interpreted to mean that two years alone are being compared. Each register contains information on the maximum financial commitment to research in progress or completed in the current year or completed in the current financial year. As such each year's figures give a two-to-three year view. The data really compare the situation in the early 1980s with the middle-to-late 1970s. The commitment of the ESRC to all kinds of research has declined markedly as Government cuts have savaged the institution. In real terms, the commitment to grants in 1982 was almost half that of 1977. This decline was less

Suitable cases for study: Afghan rebel tribesmen, Polish peasants and wool sorters on the Falklands

marked when research initiatives of the ESRC are included, the commitment for 1982 being 60 per cent that of 1977. When research concerned with Africa, Asia and Latin America is considered the decline has been much greater. The commitment in 1982 was 44 per cent than that of 1982, both for total grants and for grants and initiatives (since no initiatives related explicitly to these parts of the world).

This relative decline in work concerned with third world areas is disturbing but must be placed in context; the decline that has occurred in studies of overseas areas excluding Africa, Asia and Latin America has been even steeper. The 1982 commitment was 30 per cent that for 1977. There has been a general decline in research work concerned with all areas overseas.

Unfortunately, the cuts have not been made in fat budgets. The overseas commitment of the ESRC has never been large; its commitment to the third world, for example, has always been small. Even in the hazy days of 1977 it was 3 per cent of total research grants and initiatives; by 1982 only 3.8 per cent of monies were dedicated to such research.

The first reaction of most academics when they hear of such trends is to blame the donor institutions. Funding institutions are popular only with those who receive grants; those who do not apply for grants are likely to hold less favourable views about the institutions involved. Since the ESRC has recently granted only one pound in every four requests, it is currently rather unpopular in the academic world. My recent conversations with academics have confirmed that few hesitate in blaming the ESRC for the present situation. Such a reaction is too simple and is not likely to improve the funding situation. The true picture, I believe, is that while ESRC practices are not encouraging research on poor areas, rests with the academic community. Throwing stones at the ESRC may be inwardly reassuring, but (to mix a metaphor) ivory towers have windows too. Let us consider various explanations of the current situation.

The first hypothesis that can be proffered to explain the lack of funds for overseas research is that ESRC committees reject a higher than average proportion of such proposals. The committees might reject proposals for overseas work because such proposals are of poorer quality vis-à-vis proposals for home-based research. Alternatively, the higher than average rejection rate might be due to the prejudices and attitudes of the research

committees. The committees are often accused of being anglocentric in interest and uninterested in overseas work because of its higher cost. It is certainly true that the majority of committee members are interested primarily in home-based research and have never worked in or been concerned with overseas areas.

Unfortunately, we have little evidence with which to test the hypothesis that overseas research proposals are subject to a higher than average rejection rate. The only data that I have been able to compile so far, however, suggest that this may not be the major problem. Data available for the predecessors of the Environment and Planning Committee (EPC) show that in 1982 23.5 per cent of overseas applications to EPC received funding compared to 25.6 per cent of all applications to ESRC as a whole.

A second hypothesis is that few projects are now submitted by academics for overseas work. This is highly likely given the recent pattern of funding within the universities. These cuts would seem to have hit particular areas interests very hard; the number of staff with African and South East Asian interests has certainly fallen as appointments and/or of the remaining staff many are now approaching retirement and search. Such a lack of projects may also reflect fear on the part of the constituency that the ESRC might not fund overseas work. The overall rejection rate already referred to is certainly playing its part since the preparation of overseas project proposals is very time consuming. Few academics relish preparing research projects when there is a low chance of success.

In itself, however, the fear factor is not sufficient explanation. It is more likely that the lack of applications, if such it is, reflects the continuing preference in much social science work for systematic and theoretical studies. Looking through recent successful research grant applications gives the impression that many are concerned with wide theoretical issues which are not place-specific. The researchers assume that these issues have wide relevance to other countries although it is my view that they are mainly concerned with their own country and a handful of other industrialized nations. This tendency, which began with the positivistic approach of the 1960s and which has been continued by the political-economy writers, has created the impression that work concerned with overseas places is atavistic and unacademic.

A third hypothesis is that the increasingly insular attitude in this country. In the universities it would seem as if the numbers of courses concerned with overseas areas has declined. Within my own discipline, geography, which ought to have a goodly proportion of courses on overseas areas, the amount of teaching about poor countries has plummeted. Clearly, if the number of academics concerned with overseas areas has declined there will be a consequent decline in overseas research.

A third explanation is that of the large volume of research initiated by the ESRC itself, little is dedicated to overseas work. Since initiatives were embraced by the ESRC in 1975, almost nothing has been directed towards research in poor countries. Most initiatives have been intentionally directed towards the problems of this country and have sought neither answers nor comparative perspectives from abroad. Since the initiatives accounted for 30 per cent of the total funds destined to finance research projects in 1982, this is a major explanation of the declining share of overseas research funding. If research on overseas areas is to prosper then the ESRC must launch some initiatives in this general area.

A fourth possibility is that the shift in funding is due to a change in the balance of spending between committees. It is clear that some committees are much more concerned with overseas work than others; in 1982 social affairs committed one fifth of its funds to overseas work, education 3 per cent. Clearly a shift in council spending away from social affairs towards education would have produced a move from overseas towards British oriented research. Unfortunately, the recent change in the committees' structure of the ESRC makes this difficult to check quantitatively. But my own feeling is that this is likely to be a minor explanation because most committee chairmen have been very anxious to maintain their share of the total ESRC budget. The main shift has come through new initiatives not through a reallocation of funds between committees.

In sum, I believe the major source of problems lies in the lack of research proposals to the ESRC and the failure of the ESRC to launch initiatives concerned with overseas areas. Both explanations are themselves outcomes of other influences. Government cuts in the universities and the ESRC budget, the trends in academic publishing, the need for solutions to Britain's seemingly growing problems are among these broader contextual explanations.

It is difficult to believe that 8.9 per cent of the ESRC's grants and initiatives budget is adequate recognition of the needs for research overseas. At a time when the ODA's research budget is also in rapid decline it would seem as if much essential research is simply not being funded in this country. It is strange that as a member of NATO, the EEC, and numerous other international alliances we spend so little on studies of other countries. For an essentially trading country with a long history of overseas links the situation seems bizarre. It would seem that the country is becoming obsessed with its own problems and may become blind both to the relative needs of other peoples and to the advantages that still derive from living in Britain. But academics should not only blame the funding institutions and their political masters for this situation. The monies available for research are a function of the awareness of the need for such research. Those academics concerned with overseas areas have failed to create a consensus of the need for such work. Not only has there been an insufficient flow of research proposals but academics have failed to launch initiatives within bodies like the ESRC. Let us remember that ESRC policy is not determined by civil servants alone. A majority of committee members and most committee members are academics. Policy, therefore, is determined in large part by academics themselves.

If the funding situation for overseas work is to improve, those academics with overseas interests need to put up the better case for consideration. This education would have produced a move from overseas towards British oriented research. Unfortunately, the recent change in the committees' structure of the ESRC makes this difficult to check quantitatively. But my own feeling is that this is likely to be a minor explanation because most committee chairmen have been very anxious to maintain their share of the total ESRC budget. The main shift has come through new initiatives not through a reallocation of funds between committees.

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Robot design

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Of all the technological disciplines, robotics stands out at the moment in that it is developing at a very rapid pace and yet is highly multidisciplinary. As a result, a given roboticist has a desperate need to keep up to date not only with the rapid developments within his own particular area of expertise, but also with the wide variety of work being conducted in the many other closely allied fields within robotics. Thus, the mechanical engineer must remain highly conversant with developments in computing and control if he is to be able to design the mechanical portions of a new robot in a way which takes full advantage of the developments in microelectronics, and vice versa.

In response to this ever-increasing demand for easily accessible information,

there is now a steady stream of new robotics journals and magazines. Some of these have a strong applications bias, and when this is in turn heavily influenced by available robot suppliers and pricing, the results tend to be of only casual interest outside the country of origin. The more research-oriented journals, however, do not tend to suffer from this restriction, because research conducted in, say, the United States, is nevertheless of worldwide interest.

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The current contents of *Robotica Research* strongly reflects the particular interests of the editors. It is predominantly mathematical, with a predisposition to kinematics and control. Although these are important areas in robotics, they are nevertheless very narrow ones - it is perfectly possible to contribute valuable research in robotics without ever having more than a basic grounding in control. It is

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One of the excellent ideas that is incorporated in this journal is that the reviews should cover video material and courseware (for example, software training packages) as well as books. The four issues I read contained reviews of 22 items. Some were informative, but many were ill-informed and badly written. All but one had been written by the editor. Some of these reviews adopted a surprisingly critical tone, considering the general standard of the journal in which they appear. Each copy of the journal also includes a news section which is mainly made up of entries of the form "Grimsby based Intelligent Robot Training Technology Ltd announce their new fifth generation system..."

I could not recommend this particular journal to anyone. Up-to-date and better written news items can be found in free weekly newspapers such as *Computing* and *Computer Weekly*. Specialists should continue to read the *International Journal of Man-Machine Studies*, *Instructional Science* and the *British Journal of Educational Technology*, all of which occasionally published very good quality articles on the topic of information technology training. Clearly, there is still a need for a proper journal specializing in this area.

Tim O'Shea
Tim O'Shea is at the Open University's Institute of Educational Technology. He is Programme Chairman of the 1984 European Artificial Intelligence Conference.

Training packages

Information Technology Training
edited by Andrew Parkin
Quarterly
Longman, £28.00 per annum,
£8.00 single issue
ISSN 0263-6735

The need for a journal covering training about information technology (IT) and the use of contemporary IT to support both teaching and training is clear. Many academic and industrial trainers are currently faced with the problem of deciding how to teach, for example, programming, chip design or robotics. Many educational technologists need to make informed decisions about whether to invest in videodisc technology now or about which authoring system for computer-based training to use for standardization. At present, many published belatedly in edited books based on conference proceedings. The specialist in this area is obliged to attend conferences if he wishes to keep up-to-date.

One of the occupational hazards faced by the IT conference goer is being lectured by politicians and senior civil servants. Such keynote addresses have technical content but can provide useful hints about the future patterns of funding that might be adopted by government programmes and agencies such as the European Strategic Programme for Research in IT, the Manpower Services Commission, Open Tech and the Department of Trade and Industry. Reading these talks after the event and their complete lack of perspective. Information technology did not start with IT year '82 or the announcement of the Japanese fifth generation programme.

Fighting my way through four back issues of *Information Technology Training* I found that about a quarter (9) of the 38 short articles were "written" by top technical servants of the state. Another 18 articles were thinly

SCIENCE JOURNALS

Robot design

International Journal of Robotics Research
edited by Michael Brady and Richard Paul
Quarterly
MIT Press, \$100.00 per annum (institutions), \$50.00 (individuals)
ISSN 0278-3649
Robotica: International Journal of Information, Education and Research in Robotics and Artificial Intelligence
edited by J. Rose
Quarterly
Cambridge University Press,
£45.00 per annum (institutions),
£25.00 (individuals) £13.50 single issue
ISSN 0263-5747

Of all the technological disciplines, robotics stands out at the moment in that it is developing at a very rapid pace and yet is highly multidisciplinary. As a result, a given roboticist has a desperate need to keep up to date not only with the rapid developments within his own particular area of expertise, but also with the wide variety of work being conducted in the many other closely allied fields within robotics. Thus, the mechanical engineer must remain highly conversant with developments in computing and control if he is to be able to design the mechanical portions of a new robot in a way which takes full advantage of the developments in microelectronics, and vice versa.

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to be hoped therefore that the scope of the journal will broaden considerably to reflect more accurately the wide diversity of current international robotics research, ranging from optimizing robotic assembly and arc welding, through vision and programming, to analysis of economic and social considerations. A highly interesting departure for the journal, however, was a recent special issue on "legged locomotion" which attempted to draw together representative work throughout the world. Although the subject was still relatively esoteric, at least for those roboticists researching into production techniques for industrial robots, it is perhaps in this role, as a forum for related research, that *Robotica Research* could make its greatest contribution.

Although its closest British equivalent *Robotica* has only been running since 1983, it is already achieving a comprehensive balance of reviewed papers from Europe, the United States and Japan, with contributions even from Hungary and Australia. Papers have covered many topics, including predictions regarding research directions, considerations of employment, vision, industrial problems, and the seemingly mandatory kinematics and

control. However, although the spread of subjects provides a more accurate picture of current worldwide activity than *Robotica Research*, this has inevitably had consequences for depth of coverage in any particular field.

Although Britain is well supplied with about six robotics-related periodicals published by the ubiquitous IFS Publications Ltd (notably such offerings as *The Industrial Robot* and *The FMS Magazine*), it is refreshing to see the appearance of a journal from an alternative publisher. In addition, although *Robotica* contains a regular section of reports and surveys, as well as book reviews, conference reports and announcements, it is primarily concerned with reviewed papers - in contrast to the IFS publications which tend to make heavy use of "reporters". Thus, *Robotica* seems to fulfil satisfactorily the need for a research-oriented journal to complement the more news-oriented magazines already available in Britain.

Peter Scott

Peter Scott is a roboticist at the Centre for Robotic and Automated Systems at Imperial College, London.

Publishers were requested to send for review the three most recent issues of any science journal that had appeared for the first time since January 1983. This collection of reviews is based on a selection of those received - several were published for the first time in 1984.

A list of journals of which no reviews were commissioned, appears on page viii.

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CHRONOBIOLOGY INTERNATIONAL

(A Journal for Biological Rhythm Research)

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Editors-in-Chief: A. REMBERG, Laboratoire de Physiologie, Fondation A. de Rothschild, 29 rue de Valenciennes, 75010 Paris Cedex 10, France and M. SMOLANSKY, The University of Texas, School of Public Health, PO Box 20186, Houston, TX 77225, USA

Chronobiology International is an international, multidisciplinary journal encompassing biological-rhythm investigations of periodicity in all life forms including cancer, reproduction, photosynthesis, pharmacology and toxicology, neurophysiology and many other fields of specialization.

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Editor-in-Chief: Professor M. S. WALD, Fachhochschule Hamburg, Fachbereich Maschinenbau und Chemietechnik, Berliner Tor 21, 2000 Hamburg 1, Federal Republic of Germany

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Honorary Editor: G. G. ROBERTS, FRSC, UK
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SCIENCE JOURNALS

Cognitive tests

Journal of Psychoeducational Assessment

edited by B. A. Bracken
Quarterly
Grune and Stratton

\$64.00 per annum (institutions),
\$30 per annum (individuals)
ISSN 0734-2829

Psychoeducational assessment is a vast area of concern today, involving expertise on which crucial decisions depend and affecting the educational careers and life chances of numerous individuals, particularly but not only those with learning difficulties. In recent years traditional approaches to such assessment, which rely largely on normative-based tests, have increasingly come under attack. It is argued that current methods of assessment are often too narrowly based, being product rather than process oriented. With the aid of instruments of dubious reliability and validity, they encourage a static and inappropriate medical model, emphasizing factors within the individual at the expense of

other, perhaps more important, considerations relating to school, family or cultural background.

It is essential that all who are engaged in psychoeducational assessment should be aware of the strengths and weaknesses of the tests and other instruments which they use, as well as of up-to-date thinking on theoretical issues and innovative strategies. Although existing psychological and educational research journals readily find room for psychometric contributions, there is certainly scope for a specialist journal such as this one. Launched in March 1983, it brings together a variety of empirically based studies in this field, with an emphasis on their implications for the practitioner. Test-users as well as academics, especially those involved in the training of psychologists and special educators, will find a great deal of informative and thought-provoking material in the papers published to date.

The three issues which I perused contain a wide range of articles. The emphasis is on tests of cognitive functioning, especially those designed to tap the planning and organizational skills of children with learning difficulties; but there are also, for example, contributions on personality tests, race and sex bias in test items, the stability of psychometric classifications over time, and examiner accuracy (an im-

portant but neglected topic). In addition to empirical reports and reviews of tests and books, the journal includes stimulating and instructive articles by Carol Lidz on "Dynamic assessment and the preschool child" provides an admirable model.

As is only to be expected in a journal of this nature, most of the papers contain some highly technical material, but in general a reasonable level of readability is maintained. While providing new information about well-known tests, the journal points the way to broadening psychoeducational assessment and developing more dynamic and flexible approaches than have generally been adopted. I wonder whether the fact that almost all the contributors are from the United States and most of the references relate to North American work will limit the journal's relevance. Valuable as much of this work is, it is to be hoped that as the journal becomes more widely known, it will become more international in character. Even in its present form, however, it will be of considerable interest to those concerned with psychoeducational assessment in many countries outside the United States.

Maurice Chazan

Maurice Chazan is professor of education at the University College of Swansea.

A perfect friendship

Journal of Social and Personal Relationships

edited by Steve Duck
Quarterly
Sage

£34 per annum (institutions),
£15.00 (individuals)
ISSN 0265-4075

Had it been designed to do so, it is difficult to imagine that the division of labour within the social sciences, especially that between sociology and psychology, could more effectively have inhibited the development of theory and research. Important issues simply refuse to fit within the disciplinary boundaries. The appearance of a new journal intended to bridge these boundaries is therefore particularly welcome.

This is especially so when the journal is devoted to theory and research concerning the central, though much neglected, topic of human personal and social relationships. Since such relationships are the sine qua non of social behaviour, it is little short of amazing that their study has remained neglected for so long. However, the fact that relationships are so central to so many social sciences, means that this journal is likely to provide a useful focus for interdisciplinary collaboration.

It is, of course, difficult to make any long-term assessment of this journal's



ism of the editorial board. This danger is exacerbated by another emerging tendency—the concentration on voluntary interpersonal relationships. This emphasis on friendship, romantic relationships and marriage reflects a cultural bias towards western individualism consistent with the exclusively Anglo-American origins of the contributors. Significant though these relationships are, it is important that they should not become a synonym for "relationship" per se, for there are other types of relationship the understanding of which is no less fundamental to the explanation of social behaviour. I look forward to more articles along the lines of John Heppner and Ann Crenshaw's research into the decidedly involuntary and conflictual relationships between prisoners and their guards. I would also wish to see more cross-cultural research, especially that concerned with relationships based, for example, on notions of "duty". It is interesting to note that in the only article reporting any cross-cultural data to appear so far, Michael Argyle and Monika Henderson found, contrary to expectations, that there were considerable cultural differences in rules relating to friendship.

The aspirations of the journal's editorial board are laudable and their initial attempts to achieve their goals encouraging. What they must strenuously avoid is this journal becoming another specialist publication preaching only to the converted.

P. A. J. Waddington

P. A. J. Waddington is lecturer in sociology at the University of Reading.

Linguistic issues

Journal of Language and Social Psychology

edited by Howard Giles
Quarterly
Multilingual Matters

£31.00 per annum (institutions),
£10.00 (individuals), £6.00 (students)
ISSN 0261-927X

One of the stranger aspects of the history of social psychology is the small amount of attention which has been given to the study of social interaction. Even stranger still is the fact that language, the prime element of human social interaction, has been almost totally ignored. In recent years, however, this historical precedent has been challenged, and a journal devoted to language and social psychology has at last made a welcome appearance.

Its editors aim to provide a focus for this developing sub-discipline by publishing those articles which because of their linguistic psychological content sit uneasily in various related journals, or

which remain unpublished because of the particular methodological standards they adopt. They have wisely not sought to be overly prescriptive about the topics their potential authors should address, and already the journal has included papers on a wide variety of subjects. In contrast to this diversity at the topic level, the papers show a marked methodological and theoretical similarity. The majority of them utilize quantitative and experimental approaches in the application of existing social psychological theories of interpersonal attitudes and attraction to questions made possible by the descriptive frameworks of quantitative sociolinguistics. This emphasis suggests a definition of the area as a hybrid of social psychology and sociolinguistics, a definition which the editors clearly favour.

This parentage is not surprising given the history of social psychology, but it is tempting to speculate on how the subject might have developed if the study of language had been adopted in its youth. Such speculations may yet prove to be important, because I cannot help but wonder how a social psychology of language born out of a denial of the significance of language will confront its own internal contradictions. It is conceivable that we will

see a re-run of the conflicts which various developments in qualitative methodology produced in the 1960s. Alternatively, it is possible that the demands of cognitive psychology in the 1980s will force quite different considerations. Either way, this journal should provide a forum for the resolution of such issues.

Finally, although the editorial 'edit' in favour of "concise, jargon-free writing" (volume one, page 1) is a welcome one, unfortunately many of the authors have not obeyed it. Sentences such as "For the child to develop overall language competence he must first valorize language, to attribute a certain positive value to language as a functional tool, that is, as an instrument which will facilitate the fulfilment of social and cognitive functioning" (volume one, page 33), and "Relational partners also argue, which is an activity entailing the making of a claim and the offering of a reason in a context of disagreement" (Jacobs & Jackson, 1981)" (volume two, page 155) require a firmer editorial hand.

David Good

David Good is a lecturer with the social and political sciences committee at the University of Cambridge.

SCIENCE JOURNALS

In the rumour business

Edited by Anthony Ralston

Quarterly
Springer

DM46.00 per annum (plus postage),
DM14.70 single issue
ISSN 0724-6722

New Generation Computing:
an international journal on fifth-generation computers

edited by T. Moto-oka
Quarterly
Springer, DM250.00 per annum
(plus postage)
ISSN 0288-3635

Subjects like physics, whose every topic seems to be catered for by specialized journals, need and get periodicals whose functions are to survey new specialized developments at a level which specialists in other corners of the subjects can understand and enjoy, and to act as transmitters of respectable rumours. Subjects whose expansion has been rapid in a time of limited library budgets are less well supplied with specialized journals, which means that their channels for the spread of scientific information are not so clear and that many citations of previous work refer to unpublished and quite often unobtainable research reports.

It can be argued that these latter subjects, of which computing is an obvious one, are therefore even more

Why the apple falls

Classical and Quantum Gravity

an international journal of gravity, geometry and field theories, supergravity and cosmology

edited by M. A. H. MacCallum
Monthly
Institute of Physics, £85.00 per annum,
£14.50 single issue
ISSN 0264-9381

The object of modern gravity research can be broadly classified into two divisions: classical gravitation and quantum gravitation. To appreciate the distinction it is useful to make a comparison with electromagnetism. Classical electromagnetic theory was formulated by James Clerk Maxwell over a century ago. Maxwell's theory provides an accurate and useful account of the properties of electric and magnetic fields, the interaction of these fields with charged bodies, and the generation and propagation of light waves.

Later, the principles of quantum mechanics were applied to electromagnetism. The resulting theory, which is more intricate and difficult than Maxwell's original elaboration, is known as quantum electrodynamics. This theory was put into more-or-less its present-day form in the 1940s. Despite some stubbornly persistent physics-mathematical flaws, it remains one of the most spectacularly accurate physical theories known to science—correctly accounting for a multifarious array of minute and subtle atomic phenomena. It is the theory of the interaction of photons, the particles of which light is composed, with electrons, positrons and other electrically charged particles.

The classical theory of gravitation is Einstein's theory of general relativity. It is not only a theory of gravity: it is also a theory of the structure of space and time, and thus of the dynamics of the universe in its entirety. As a physical theory general relativity is an uncompromising edifice of pure geometry, indisputably elegant, and of great mathematical interest.

The quantum theory of gravitation does not yet exist—in any event, unlike the case with quantum electrodynamics, no single theory has yet emerged with a clear and satisfactory claim to the title. The numerous attempts in this direction have in many respects met with a high degree of partial success and have gone a long way towards some clarification in our understanding of gravitation and its relation to the other fundamental forces of nature.

As the quantity of research in this area has increased substantially in recent years, with a correspondingly steep rise in the number of publications on the subject, *Classical and Quantum Gravity* is a very welcome newcomer to the literature of theoretical physics. It is the first journal to address openly the full range of contemporary gravitational investigation, including specifically aspects pertaining to quantum phenomena. In but a few issues it is already well on the way to establishing itself as a journal of premier quality. The composition of the editorial board is vigorous and includes a number of outstanding young relativists.

In addition to the main articles there is a rapid publication "letters" section, a book reviews section, and a section announcing pertinent conferences, meetings and summer schools. Perhaps this format might be usefully supplemented by an occasional review article.

It will be curious to observe how *Classical and Quantum Gravity* fares in the next few years in comparison with *General Relativity and Gravitation* which hitherto has published articles primarily on the classical side of the subject. *Classical and Quantum Gravity* will be browsed and read not only by relativists but by particle physicists, astrophysicists, cosmologists, and also, significantly, geometric analysts (to use the convenient term which has been adopted by the National Science Foundation, for funding purposes, to refer to mathematicians—at once both pure and applied—who use geometrical models in the analysis of nonlinear phenomena arising in partial differential equations and several complex variables with "exciting connections" to theoretical physics).

It will also be interesting to see whether *Classical and Quantum Gravity* will consistently attract articles which might otherwise have been sent to the days of physics journals, *Physical Review*, I think I just might.

Lane Hughston
Lane Hughston is fellow and tutor in applied mathematics at Lincoln College, Oxford.

these three-page reports. But the remedy is partly in the hands of European authors: no geographical discrimination is applied to submitted contributions.

Abacus has no rivals in its declared field at present, and deserves a circulation which goes beyond computer professionals. The book-review section is particularly valuable for relative amateurs' key fields are chosen, and the titles examined are reviewers' choices of the most instructive or significant books in those fields.

The part of computing which is covered by the Japanese Fifth Generation Programme in research and development has attracted much speculation, assertion and counter-assertion in print, based on comparatively little hard information besides the initial statement of the programme itself. The need for hard information is not a

purely scientific one; American and European economic and political decisions on what are in effect responses to Japanese activities in advanced computing should at least be capable of distinguishing between real and imagined activities.

New Generation Computing, by intention an international publication, promises to be an appropriate source where sources to date are few, because its editorship and the contributors to its earliest issues are mainly Japanese. It is a technical rather than a survey journal; non-technical items are confined to prefaces or the occasional leading article. Technical source material from which one can draw useful conclusions about the current direction of the Japanese programme is, however, easy to find—for example, in papers on the personal sequential inference computer, and designs for

parallel-inference and novel database machines. Logic programming is a somewhat less exotic field, but one which is well represented here in its Japanese manifestations. *New Generation Computing* is an invaluable and quite often unique window (to date) on research in these areas.

J. A. Campbell

J. A. Campbell is professor of computer science at the University of Exeter.

Computers in Life Science Education, edited by H. I. Modell and first published in April, is a monthly journal that intends to provide a "means of communication among life science educators who anticipate or are currently employing the computer as an educational tool." Published by Elsevier Science, it costs \$68.00 per annum.

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Editor: B. Buchberger
Volume 1, January 1985, Quarterly
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Journal of Symbolic Computation will publish original articles on all aspects of the algorithmic treatment of symbolic objects (terms, formulae, programs, and algebraic and geometrical objects), placing emphasis on the mathematical foundations, correctness, and complexity of new sequential and parallel algorithms for symbolic computation.

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Editors-in-Chief: Kai Hwang and Leonard Uhr
Volume 2, 1985 will be published quarterly
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Editor-in-Chief: E. Raymond Andrew
Volume 1, 1984, Quarterly
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MOLECULAR BIOLOGY & MEDICINE

Editors-in-Chief: E. S. Lennox and S. Brenner
Volume 3, 1985, 6 issues
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Molecular Biology & Medicine provides a meeting ground for the basic scientist and the clinician. The journal publishes papers in molecular biology, cell biology, biochemistry, and biophysics, giving preference to articles on human material or other material with implications for the human. From the clinical side, work will be reported that offers the basic scientist opportunities in new areas for the application of modern concepts and new methods.

BULLETIN OF CLINICAL NEUROSCIENCES

Editor-in-Chief: Hugh B. McIntyre
Volume 60, 1985, Quarterly
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Published under the auspices of the Los Angeles Society of Neurology and Psychiatry and the Southern California Neurological Society, this international journal is primarily devoted to the clinical neurological sciences.

JOURNAL OF CEREAL SCIENCE

Editors: T. Galliard and J. D. Schofield
Volume 3, 1985, Quarterly
\$43.00 (UK)/\$68.00 (Overseas)

This journal is an international publication covering cereal science research as it relates to the functional and/or nutritional quality of cereal grains and their products.

JOURNAL OF THE AUSTRALIAN INSTITUTE OF AGRICULTURAL SCIENCE

Editor: John J. Lenaghan
Volume 61, 1985, Quarterly
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Molecular evolution

Molecular Biology and Evolution
edited by Walter M. Fitch
Bimonthly
University of Chicago Press, \$68.00
(institutions), \$38.00 (individuals)
ISSN 0737 4038

The development of recombinant DNA techniques permitted the dissection of the molecular structure of eukaryotic genes, the first such studies being immediately followed by comparative work on the same genes in other species. However, now that the main thrust of molecular biology is no longer primarily concerned with molecular work, evolutionary biologists have themselves begun to adopt these molecular techniques.

The new methods have had an important impact on the field. First, although the phylogenetic analysis of sequence data is well established for protein sequences, the extension of such analyses to DNA has not been straightforward. When the DNA sequences for the same gene from two different species are compared, considerable differences in the level of sequence divergence are found between coding and flanking regions, exons and introns, functional genes and "pseudogenes", and between the

third base position in the reading frame and the first two positions. Variation in divergence rates of this sort had not been found when protein sequences were compared.

Second, at the level of individual variation, the technical leap has been more pronounced and the pressures on the field have been even greater. Data on the divergence between individuals in restriction map, or even DNA sequence, are now being obtained, especially for mitochondrial DNAs, and such data are qualitatively different from that generated, for example, by gel electrophoresis. New statistical techniques have been required to handle such data, and a new theoretical framework is needed to accommodate them.

With new methods being applied and new types of data collected in the field it is not surprising that a publisher should come forward with a new journal *Molecular Biology and Evolution*, clearly founded with the future in mind and issued bimonthly (sensibly, in view of the small number of groups currently involved). In its first four issues, it published about 30 articles (including some book reviews). The majority of these can be related in some way to data generated using recombinant DNA techniques. They include experimental studies on comparative aspects of gene structure; and on variability at the nucleic acid level, analyses of published sequence data, presentation of statistical methods for handling such data, and theoretical work on related topics. The remaining

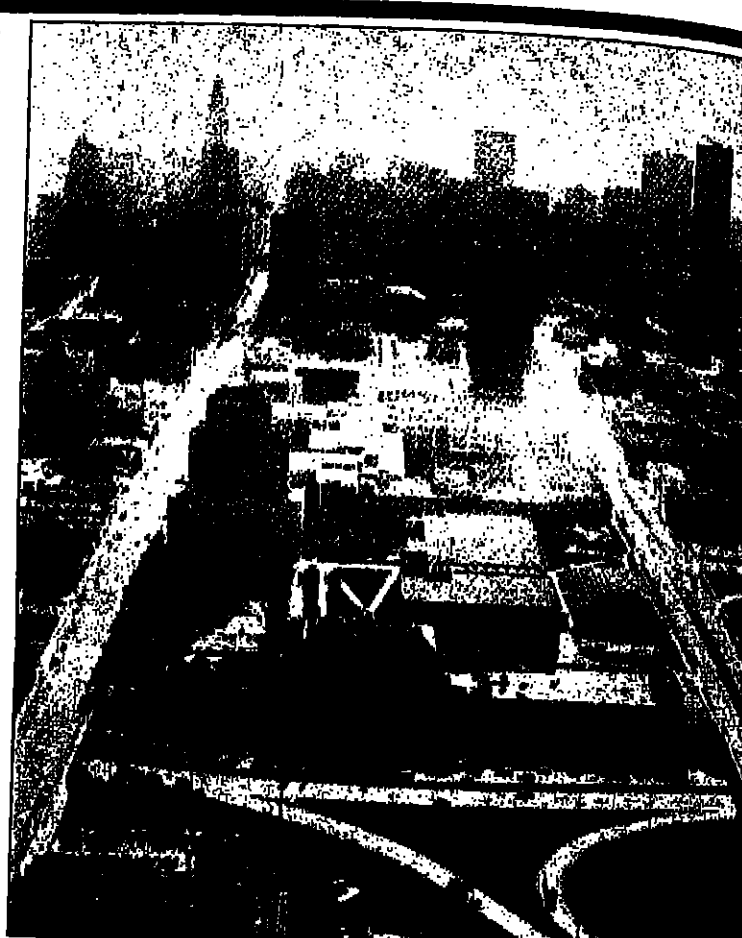
papers include several on enzyme evolution and variation, other biochemical or immunological techniques in an evolutionary context. The standard is generally high and a good balance has been achieved, both between theory and data and between the different subjects.

Volume alone would not currently justify a journal solely devoted to this field and is not unreasonable at this stage that workers associated with the managing editor should contribute 20 per cent of the papers in these issues. The justification must lie in the juxtaposition of papers which would otherwise be widely dispersed, bringing together work on different organisms and including theory as well as data. However, the present practice of publishing many papers in this field in general interest journals (evolution is always of general interest) could not continue as the "news" value declines; in any case there are disadvantages arising from space restrictions. It is important, for example, that even long sets of sequence data are made widely available for subsequent reanalysis.

In view of the almost complete failure of the established journals in the field of evolution and population genetics to attract papers presenting molecular data, it seems inevitable that *Molecular Biology and Evolution* will grow steadily, if only by recruitment to the field of students who learned the "modern" techniques under

A. J. Leigh Brown

A. J. Leigh Brown is lecturer in genetics at the University of Edinburgh.



View looking westward across Cleveland State University campus towards Terminal Tower and Public Square. From an article on "Birmingham, UK and Cleveland, Ohio: an Anglo-American comparison" in volume one, number four (May, 1984) of *Cities: an international quarterly on urban policy*, published by Butterworths at £78.00 per annum (single issue £23.40).

Trends in biology

Cell Biochemistry and Function
edited by E. M. Crook
Quarterly
Butterworths, £80.00 per annum, single issue £24.00
ISSN 0263 6484

BioEssays: news and reviews in molecular, cellular and developmental biology
edited by W. J. Whelan
Monthly
Cambridge University Press, for ICSU Press, £32.00 per annum (institutions), £15.00 (individuals)
ISSN 0265 9247

In an editorial in the first issue of *Cell Biochemistry and Function* Professor Crook writes that the purpose of the new journal is "to provide a forum for reporting and discussing the biochemistry of whole cells and the link between the biochemistry and functioning of cells in isolation, in assembly and in tissues." Looking through the four issues that are available to me I think the papers fall mostly into the area of cell biology rather than into the more mechanistic areas of biochemistry or into molecular biology.

Although many of the papers are original contributions, the journal also

sometimes includes a Biochemical Data Section comprising a set of short papers on some specific topic. A distinction also seems to be made between communications (short original contributions) and papers of greater length. In addition there are book reviews and a calendar of forthcoming scientific meetings.

It is difficult to know whether this journal will make a place for itself in the biochemical literature: most of the papers would have found a place in an already established journal; and as no dates of receipt of papers are given it is impossible to know whether an author who is in a hurry to make his findings known would consider publishing in it. One thing in its favour is a striking cover.

BioEssays, the first issue of which was published in July, seems to be based on the successful formula used in the various *Trends* journals, the first of which, *Trends in Biochemical Sciences*, was in part the brain-child of Professor Whelan, the editor-in-chief of *BioEssays*. In his introduction to the first issue, Professor Whelan hopes that the journal will act for the community of "new biologists" which he defines as "the international community of scientists who have helped to create or who have taken part in the explosion of biological knowledge that has occurred in the last decade." Co-sponsored by no less than nine international scientific organizations that are members of the International Council of Scientific Unions (ICSU), *BioEssays* is said to represent a "partnership between one of the newest publishing houses, the ICSU Press, and the oldest press in the world, Cambridge University Press."

BioEssays contains a number of review articles on diverse biochemical topics, features, book reviews, and a calendar of meetings and courses (this last seemingly more comprehensive than that in *Cell Biochemistry and Function*). The style is lively, the articles informative and not too long, and the whole is eminently readable. It should become very useful in the teaching of many aspects of biology, especially in making recent advances easily accessible to students.

In recent years, there has been an increase in the number of review articles published in the biological sciences, and sometimes feel that so much of my life could be spent reading them that there would be little time left for work at the bench. *BioEssays* is another manifestation of this trend. Perhaps the shortage of funds for experimental work leads biological scientists to write reviews instead of doing experiments.

S. P. Datta

S. P. Datta is professor of medical biochemistry at University College London.

Plasma physics

Laser and Particle Beams: physics of high-energy densities
edited by Heinrich Hora, T. Donnelly, R. Dautray and G. H. Milley
Cambridge University Press.
£50.00 per annum (plus postage), £15.00 single issue
ISSN 0263 0346

The title of this journal is not indicative of its content. If you are expecting to find mainly papers about laser deuterium or an analysis of their functioning or about high-energy or low-energy electron and proton beams, you would be widely off the mark, as it is devoted almost exclusively to the use of lasers and particle beams in thermonuclear fusion devices and to the associated physics. The subject matter is therefore largely plasma physics, a rapidly expanding international field centred on such applications. Plasma is a gas which is so charged with internal energy that some atoms and molecules have become ionized by shedding their electrons. It is formed in electrical discharges such as arcs or sparks or by high pressure, temperature or both (for

example, in the Sun's interior or in thermonuclear devices.)

However, although plasma might be said to be the fourth state of matter, the "fire" of the ancient Greeks, constituting more than 90 per cent of the universe, and although astrophysicists share some of the scientific concerns of the plasma community, only very few papers in the journal are not connected with problems of inertial fusion devices. Such devices aim at confining deuterium- or tritium-containing plasma at a temperature of 100 million degrees centigrade for times in the nanosecond range, such that particles with thermal speeds do not have enough time to escape. They thus avoid the typical instability effects of magnet fusion which tend to disrupt plasma in devices such as tokamak.

On the other hand, compression of matter by laser light by a factor of ten thousand has its own problems. The transfer of the laser power to the target is therefore the subject of much study, good coupling being crucial for the attainment of a practically usable neutron yield. As the efficiency of available laser systems is low, it has now been proposed to use ion beams for plasma confinement instead of lasers.

The technology associated with the production of ion beams is a complex subject, but essential if we are to focus beams of high-energy ions which are difficult to deflect by magnets, on to a small target. The construction of

targets both for laser-driven and ion-driven fusion is an important subject; experimentation in this field is expensive; and results are not easily interpreted without the use of detailed mathematical models. Large-scale computing machines are used to solve the relevant equations of plasma physics and provide theoretical guidance for experiments.

Thus, the journal contains papers on energy transfer in inertial confinement, studies of targets for light and heavy ion-beam fusion, electrostatic field and charged particle acceleration in laser-produced plasmas (a subject especially dear to the editor), and so on. Altogether, the papers are of a very high standard and the editors are to be congratulated on the success of their efforts. Unfortunately, however, although the papers are of high interest, they will appeal only to a small rather specialized segment of the scientific community.

As university libraries are finding it increasingly difficult to provide all the specialized journals, it may be time for a non-proliferation treaty between publishers. Indeed, all the papers in this journal could easily have been distributed among a number of journals in the same field - for example, *Plasma Physics*, *Physics of Fluids*, *Nuclear Fusion*, *Applied Physics*, and so on. Although it is clearly easier to publish in a specialized journal, proliferation may be self-defeating if the libraries cannot buy. Let us hope they will.

Hans Motz

Hans Motz is emeritus professor of engineering in the University of Oxford, now at the Clarendon Laboratory.

Chemical interfaces

Computer-Enhanced Spectroscopy: an international journal
edited by H. A. Willis
Quarterly
Wiley Heyden, £55.00 per annum
ISSN 0734 3051

There can surely be few people who remain oblivious to the great explosion in microcomputer use. The impact of this new technology is no less apparent, and certainly more varied, in the scientific laboratory than in schools, offices and the home. *Computer-Enhanced Spectroscopy* aims to publish "travel work in which the performance of a spectrometer or chromatograph/spectrometer combination is enhanced with a computer."

Such developments take many forms and are by no means confined to microprocessor-based systems: the ever-decreasing cost/performance ratio of all computer hardware and modern developments in database and artificial intelligence techniques allows such tasks as chemical structure elucidation and identification of multi-component mixtures from routine analytical data to be performed on general purpose timeshare systems. Nevertheless, it is the use of dedicated mini-systems and micro-systems with experimental apparatus which current-

ly generates the greatest interest.

At this level the most dramatic applications are the development of novel techniques for example, the revolutionary introduction of Fourier transform spectrometry. Striking improvements in experimental signal-to-noise can be obtained in other ways using digital signal processing techniques and heuristic data collection algorithms. Seemingly more prosaic are the uses of computer control and automation which can provide added convenience in routine analysis but may equally well allow instruments to be used in otherwise inconceivable ways. Accompanying all such applications, although frequently not explicitly discussed, are interesting issues of experimental design and philosophy.

The editors of this new journal have been highly successful in attracting papers covering all the above aspects, giving a great breadth to the first issues. Yet this is perhaps also an indication of some uncertainty of the audience to whom this journal is addressed. Furthermore, it is not easy to identify papers which could not have been published elsewhere and which they may have been explicitly notified by the readership their authors seem to have had in mind.

There is, however, one class of paper, that dealing in a specific manner with interfaces to instruments, which provides a partial exception to this. Although many standard interfaces are now commercially available, there remain occasions, especially where high data throughput is required, when custom designs need to be prepared. Unfortunately, I detected

a tendency for some authors to seek to publish such designs which, although they solve their own immediate requirements, do not show evidence of an overall design strategy.

The problem is compounded as the mass marketing of microcomputers has led to a plethora of machines, many already discontinued, aimed at a non-scientific market. And as such hardware and more particularly the software is often not ideally suited for laboratory use, some papers appear which seem to describe fundamentally inelegant, highly specific interfaces to obsolescent equipment. The didactic value for the general reader. This type of material may be of interest to the specialized readership of newsletters, but it is hardly appropriate for a primary research journal. Established journals of scientific instrumentation have confronted this problem by issuing clear guidelines of what is acceptable for publication; perhaps the editors of this one should consider doing the same.

More generally, I was left with the impression that this journal needs a more clearly defined policy in order to fulfill a useful role and certainly needs to adopt more uniform standards of refereeing. The real test for a new journal in these days of reduced budgets is whether it could be recommended for library subscription. At present I would doubt whether I should.

Ivan Powis

Ivan Powis is lecturer in chemistry at the University of Nottingham.

Surveying the scene

Image and Vision Computing
edited by Keith Baker
Bimonthly
Butterworths, £75.00 per annum, £22.50 single issue
ISSN 0262 8856

Research in image processing has been advancing steadily for nearly two decades. The quality of the computer-enhanced pictures sent back to Earth from the American space missions such as Voyager and Mariner provides a spectacular demonstration of the power of image processing. In recent years work in this field and in the related subjects of pattern recognition and artificial intelligence seem finally to have attracted the special attention of governments on this side of the Atlantic.

Specifically in Britain, the Alvey programme is intended to lead to coordinated research in academic institutions and industry; the aim being to

place Britain in a competitive position with regard to the new (fifth) generation of computers, with their advanced powers of pattern recognition and artificial intelligence. Here image processing will play an essential role - for example, in robot vision.

At a time when research is advancing so rapidly, the advent of a new British journal (complementing the American journals *Computer Graphics and Image Processing* and *IEEE Transactions on Pattern Analysis and Machine Intelligence*) is certain to arouse interest. The many topics covered so far include both image processing theory (including the fairly new concept of optic flow) and its applications in scene analysis, analysis of moving images, medical imaging, and industrial imaging. Other articles have been concerned with the closely related field of pattern recognition in image processing.

The quality of the contributions is high, many of the authors being distinguished researchers in their subject. Personally I would have liked to have seen more articles on practical implementation - for example, on computing aspects such as parallel computation - as there is now much research in this area designed to create computer

architectures suitable for image processing or even specifically intended for it. Another topic that could perhaps receive more attention is artificial intelligence - for example, in relation to machine vision.

A new journal must have in its presentation, policy or choice of articles something to distinguish it from other journals in its field. Although it is perhaps difficult to make a distinctive choice of topics without unduly narrowing the range, *Image and Vision Computing* does have some interesting features. In addition to book review pages, there is a section headed "Progress Notes" on newly available image processing hardware, and one entitled "Insight" comprising general news items and comment.

The quality of the monochrome pictures, however, is not what one might expect, and there are no colour plates. *Image and Vision Computing* is nevertheless a useful addition to the range of available journals.

James Macleod

James Macleod is lecturer in electronics and electrical engineering at the University of Glasgow.

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Hitting on an idea

History and Technology: an International Journal edited by Pietro Redondi

Quarterly
Harwood Academic, £41.00 per annum (institutions), £20.00 individuals
ISSN 0734 1512

During the past few decades the recognized scope of history has been successively enlarged by including consideration of social, economic and - most recently - scientific and technological factors. In step with this, a corresponding range of journals has emerged. In the field of technological history the latest to appear is *History and Technology*, which describes itself as an international interdisciplinary journal exploring the relationship between technological evolution and the scientific, intellectual, social and economic development of civilization. The preferred language is English but papers in French will be accepted. This is excellent, but it seems rather

unnecessary that both the introductory editorial by Pietro Redondi and the first paper to appear - some reflections on the history of technology by Lucien Febvre, first published nearly fifty years ago in *Annales d'Histoire, Economique et Sociale* - should appear again not only in the original French but also in English translation. Other contributions appear in only one language.

The journal's ambitious goal is "to place the history of technology at the crossroads of multiple historical perspectives". This is laudable, but has to be set against the fact that in these first issues a considerable amount of intellectual energy is expended in beating about to find an internationally acceptable definition of the history of technology. One whole paper is devoted to this problem alone. That there are real difficulties here is undeniable: in English, for example, technology has to do double duty for the French words *technique* and *technologie*, which have different connotations, and is not quite the same as the German *technik*. Definitions quoted and found wanting include "how things are commonly done or made" and "man's rational and ordered attempt to control his natural environment". One article starts uncompromisingly by saying that "The history of technology is a branch of the history of ideas".

Editorial policy seems to be to join battle on two fronts. First, to pursue the "internal" or technical history of

technology - what might crudely be termed nuts-and-bolts history. Second, to explore the history of technology as a philosophical exercise rather remote from the scene of action. For a small quarterly publication, such extended coverage is over-ambitious and some sharper definition of the journal's scope will surely have to be made. Perhaps it already has been, for the intellectual rather than the practical approach that is emphasized.

For "internalists" this is disappointing, but not surprising, for the approach to the history of technology and of science too, for that matter - is increasingly becoming that of the sociologist. This raises the question of how far another general journal with this orientation is necessary, as there are already several comparable international journals, including *Technology in Society* (British), *Technology and Culture* (American), and *Journal of the History of Ideas* (American). For the nuts-and-bolts man there is *History of Technology* (British), an annual review which has published many excellent papers during the past eight years. And in addition, there are a fair number of journals devoted to specialized aspects of the history of technology, such as *Agricultural History* and the *Transactions of the Newcomen Society*.

Trevor I. Williams

Trevor I. Williams is author of "A Short History of Twentieth-Century Technology" (Oxford University Press, 1982).

Making an impact

International Journal of Impact Engineering edited by W. Johnson, Norman Jones and S. R. Reid
Quarterly
Pergamon Press, £60 per annum (institutions), £30 (individuals)
ISSN 0734 743X

In its widest interpretation, impact engineering embraces the analysis, design, construction and testing of machines and structures loaded under impact and the application of impact to the manufacture of objects. Repeated or periodic impacts of exciting vibrations or causing some form of damage are excluded. In line with the definition of impact as a "single collision of one mass with a second mass", given by the International Standards Organization. Although it might seem that a journal entirely devoted to a subject that is

only a small part within the general field of mechanics of solids and structures, already well served by a number of prestigious publications, is hardly necessary, the increasing public concern for the safety of all types of vehicles, structures and industrial plant has made impact engineering a popular subject, revealing problems still unsolved and highlighting several potentially fruitful areas for research.

The response of structures to impulsive loading, including crashworthiness and the design of energy-absorbing devices, as the topic that attracts most interest, is well represented in this new journal. Of the 18 out of the total 28 contributions in the first five issues. Next (with eight papers) comes penetration and perforation of solids and terminal ballistics, of interest not only to military engineering but also to the designers of shields for the protection of personnel and structures against flying debris resulting from the failure of blades and rotors in turbines, the explosion of pressure vessels and pipes, and so on. Of the remaining papers, one is on the application of impact to manufacturing technology and the other on the injury to the

human body in a crash.

It is to be hoped that future issues will achieve a balanced view of the subject by including contributions on other important topics such as the behaviour of materials at high rates of strain, crack dynamics, the development of failure criteria and computer codes, and so on, not to mention the treatment of specific industrial problems. There is certainly no shortage of sources of material in this expanding field. So far, the contributions have been of a high standard, contain original material of value to both researchers and practising engineers, and benefit from being published in a single specialized journal. If the remaining topics within impact engineering receive similar treatment in future issues, this journal should become required reading by a growing section of the scientific and engineering community.

Carlos Ruiz

Carlos Ruiz is university lecturer in engineering science and a fellow of Exeter College, Oxford

Down the pit

International Journal of Mining Engineering edited by J. W. Farmer
Quarterly
Chapman & Hall, £48.00 per annum, £18.00 single issue
ISSN 0263 4546
Mining Science and Technology edited by C. O. Brawner and B. N. Whitaker
Quarterly
Elsevier, Dfl 215.00 per annum (including postage)
ISSN 0167 9031

The volume of world mining has been doubling every fourteen years and the pace of the accompanying change is given as the motivation behind *Mining Science and Technology*, which joined the *International Journal of Mining Engineering* to become the second new mining journal of 1983. It is perhaps a little surprising that two journals should be launched amidst the almost universal picture of reduced revenues, increased inventories and, commonly, increased debts, which both public and private mining companies have faced during the past few years. One can only muse that the world recession is allowing mining engineers more time to channel their energies into their pens rather than their picks!

The editorial statement in the *International Journal of Mining Engineering* claims that the empirical nature of

mining engineering is reflected by existing mining industry journals, with their emphasis on management problems associated with day to day operation. It is the intention of this new journal to focus on engineering design, in that this distinguishes the professional engineer from the professional scientist. As design is currently a very fashionable concept in the education and training of engineers, the intention is apt.

Nowhere is the practical approach to engineering so vividly illustrated as in modern underground mining. The longwall face has, for example, been described as the art of installing a mechanical engineering coal-winning system in a hostile geological environment. In accord with such a broader view of the overall technology *Mining Science and Technology* is presumably aiming at a rather wider readership. Its intentions are: to describe changes and developments in mining procedures, to review design considerations and regulations, and to present interesting case-histories.

There is thus a difference in the tenets, aims and structure of the two journals and this has become a little more obvious in succeeding numbers. A major difference is editorial style. In the *International Journal of Mining Engineering*, the contents (six papers) are divided into reviews, papers and technical notes. Some numbers are special topics edited by appropriate members of the advisory board. About 30 per cent of the papers to date are devoted directly to design and the overall flavour is slightly more theoretical than *Mining Science and Technology*.

In the latter, the contents are, not sub-divided and the number of papers

has varied between five and seven in the first three issues. Rather more of the papers fall under the heading of geomechanics, but there is a fair coverage of underground mining technology and a practical bent comes through.

Just under 40 per cent of papers in both journals are centred on coal or coal mining - probably about the right proportion. Both are genuinely international in terms of authors and coverage. However, they have so far failed to draw many papers from surface mining or surface environmental activities, even though they both cite surface mining as being within their ambit. This is an important area of mineral extraction which neither can afford to ignore.

The technical papers published to date in the two journals would have previously been nestled in a wide variety of mining publications. If they are to survive they must stick to their aims and ensure that they fulfil different technical needs.

R. K. Taylor

R. K. Taylor is reader in engineering geology at the University of Durham.

Structural Safety: an International Journal on integrated risk assessment, edited by E. H. Vanmarcke, covers a wide range of constructed facilities such as buildings, bridges, earth structures, offshore facilities, dams, lifelines and nuclear structural systems. Published quarterly by Elsevier at Dfl. 197.00 per annum, it aims to "foster communication about risk and reliability among technical disciplines involved in design and construction".

SCIENCE JOURNALS

Terms of science

Research in Science and Technological Education edited by W. J. Wilkinson
Twice per year
Curax, £30.00 per annum (institutions), £15.00 (individuals)
ISSN 0263 5143

The aim of this journal is to publish original research, including evaluation of curriculum developments, so that specialists can communicate findings to institutions, to teachers and to students. The remit covers all aspects of education in science and technology, and all stages of school and higher education. The second editorial board's agenda to include information on developments in teaching and content of courses and papers on the practical aspects of methodology. Each of its first three issues contains about ten papers, and one issue also includes a progress report on a curriculum project and a review of a publication. About half of the papers are from this country, the others coming from Australia, New Zealand, Israel and the United States.

About two-thirds of the papers are

concerned with science in secondary schools. A "typical" paper describes research in which attitude and achievement tests are given to a sample of secondary students in order to relate the results to one another or to other aspects, such as subject choice, or teaching style. However, there is a substantial minority representing other types of work. Three papers are concerned with pupils' own understanding and use of science concepts and terms - a fashionable and valuable area of research. Four others combine brief reviews of a field of research with a new theoretical proposal. Three papers are on primary and middle schools and seven on teacher training or higher education. Only three of the papers have any substantial relevance to technology education.

The range of topics and countries indicates initial success in attracting papers over a wide field of interest. The absence of papers from the continent of Europe is notable. Language and the existence of the *European Journal of Science Education* may inhibit, but it is also relevant that the notes for contributors say nothing about the language in which papers may be submitted: this is strange in a journal anxious to maintain its cosmopolitan flavour.

Very few of the papers are about research which actually focuses on the structure and design of what is being taught. This is sad and shows strange

Videodisc access

Videodisc Newsletter edited by David R. Clark
Twice yearly
University of London Audio-Visual Centre/British Universities Film and Video Council,
£5.00 per annum (£6.00 overseas)
ISSN 0264 6358

The first four issues of this newsletter demonstrate that there is certainly a need for a publication that attempts to "provide people working with and interested in videodiscs in higher education with an opportunity to share ideas, and experience" and "make it easier to collaborate with others working in the same field".

Its content ranges from reports by videodisc manufacturers on their latest developments via intriguing items of news from the various university and other research centres where pioneering work is in progress, to articles or

questions on highly technical matters. Much of this material is abstruse for those who can recognize the immense potential of videodisc, with its swift access to vast stores of information and its high standards of vision and sound, but who are not themselves engaged in the production of discs. Yet the interest and understanding of this constituency is arguably as important to the realization of the videodisc's potential in education as is the debugging of this or that project.

The overall impression left by the four issues is one of great enthusiasm from producers but an overall uncertainty about the future role of the disc. As with other areas of the micro-technology revolution, there is repeated emphasis on the crucial importance of "the design and creation of the customers' programmes" - that is, the applications of the technology rather than the technology itself. Some of the weaker articles nevertheless fail to do more than report the whizz-bang performance (or explosion) of particular clusters of hardware. The most attractive aspect of the newsletter, however, is the frank and breezy honesty of its style. The editor is not averse to making clear his own prejudices, and contributors have so far been

priorities when so many are, by contrast, exploring attitudes. The reason may well be that the pattern of much reported research, where the researcher invades the school briefly with questionnaires and interviews, is opportunistic in avoiding any interference with the teaching.

There is little this journal can do about this, but it could improve on its successful foundation in two ways. The first would be to raise the referees' hurdles: although most of the papers are of good quality, a few that show neither insightful comment nor new empirical results have slipped through. The second is to attend more to the reader-ship. The stated aim of serving teachers and students, and not just the research community, is almost certainly over-ambitious. However, if the journal is to take this task seriously, editors will have to impose a house style to help the non-expert reader. Tactics here could include a short abstract on every paper, short introductions which actually introduce the work covered, clear statements at the outset to tell readers whether a paper is a critical review, or a presentation of new results, or a theoretical reflection, and finally a short statement at the end to communicate to the average teacher what has been achieved and why it matters. These might not be enough to help the target audience, but they would certainly help people like me.

Paul Black

Paul Black is Director of the Centre for Science and Mathematics Education at Chelsea College, London.

refreshingly open about difficulties they have been facing.

Issue four (July, 1984) proudly reports the first stages of the University of London Audio-Visual Centre joint government and industry project to develop the use of interactive videodiscs in higher education. Nearly £200,000 has been granted towards the production of four videodiscs that will in all cost just under £370,000 - quite fearsome costs that underline the importance of this venture both to the educational world and to industry. Although at first sight I was startled to note that one of the four discs will be concerned with "dog maintenance", a moment's reflection shows that the marketability and user-friendliness of the disc is going to be crucially important to the realization of its potential in education. I hope therefore that the newsletter will continue, that it will develop its scope, and that many others will be encouraged to subscribe and contribute to it.

Robin Moss

Dr Moss is Head of Educational Programme Services at the Independent Broadcasting Authority.

includes many papers examining third world subjects. As a consequence, it lacks the clear focus of *Land Development Studies* and, more seriously, despite the journal's title, many articles do not address policy questions directly. Each issue includes papers that are both informative and interesting in their own right - some written with an academic audience in mind, some not - but it is not especially evident which groups of practitioners and academics the journal is trying to address. The leader articles do not help much either, as these are sweeping and rather confusing. On the other hand, in a curious way it is the editor's collection that attracts. The journal should stimulate debate through its invited articles and keep its readership informed with its substantial book review section and calendar of future events.

Both journals exhibit birth pains. Each has too large a proportion of its papers or book reviews written by members of its respective advisory boards and too many of the papers have appeared in a similar form elsewhere or as conference papers. One journal (*Land Use Policy*) has too little direction while the other is possibly too specialized; and the publishers may experience more serious problems in establishing a viable circulation than the editors may face in attracting material to publish. Nevertheless, both ventures have made a promising start.

Richard Munton

Richard Munton is lecturer in geography at University College London.

Oxford Journals

A Selection of New Titles for 1984 and 1985

Future Computing Systems, An International Journal
Editors: Professor Brian Gaines and Dr Hajime Karatsu
Volume 1: \$100 North America £50 UK £60 Elsewhere

Institute of Mathematics and its Applications Journal of Mathematics Applied in Medicine and Biology
Editor: Dr R. W. Horne
Volume 1: \$120 North America £50 UK £60 Elsewhere

Institute of Mathematics and its Applications Journal of Mathematical Control and Information
Editors: Professor C. J. Harris and Dr J. E. Marshall
Volume 1: \$120 North America £50 UK £60 Elsewhere

MIRCEN Journal of Applied Microbiology and Biotechnology
Editors: Professor J. C. Sanez and Dr F. A. Skinner
Volume 1: \$45 North America £20 UK £25 Elsewhere

Family Practice, An International Journal
Editor: Professor J. G. R. Howie
Volume 1: \$69 North America £32 UK £35 Elsewhere

Advances in International Maternal and Child Health
Editors: Professor D. B. Jelliffe and Dr E. F. P. Jelliffe
Volume 4: \$45 North America £22 UK £25 Elsewhere

Annual Proceedings of the Phytochemical Society of Europe
Editors: Dr P. J. Lea and Professor G. R. Stewart
Volume 23: \$45 North America £20 UK £25 Elsewhere

Annual Proceedings of the Phytochemical Society of Europe
Editors: Professor A. M. Boudet and Dr P. J. Lea
Volume 24: \$70 North America £30 UK £36 Elsewhere

Oxford Surveys in Evolutionary Biology
Volume 1: \$50 North America £25 UK £32 Elsewhere

Oxford Surveys on Eukaryotic Genes
Editor: Dr N. Maclean
Volume 1: \$50 North America £25 UK £30 Elsewhere

Oxford Surveys of Plant Molecular and Cell Biology
Editor: Dr B. J. Millin
Volume 1: \$45 North America £20 UK £24 Elsewhere

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NEW JOURNALS FROM REIDEL

Acta Applicandae Mathematicae

An International Journal on Applying Mathematics and Mathematical Applications
Managing Editor: MICHEL HAZEWINKEL
1985, Volumes 3 and 4 (six issues)
Institutional rate: US \$ 63.00 per volume including postage and handling
Private rate: US \$ 29.50 per volume including postage and handling

Order

A Journal on the Theory of Ordered Sets and its Applications
Editor: IVAN RIVAL
1985, Volume 2 (four issues)
Institutional rate: US \$ 84.00 per volume including postage and handling
Private rate: US \$ 44.00 per volume including postage and handling

Journal of Inclusion Phenomena

Editors-in-Chief: JERRY L. ATWOOD and J. ERIC D. DAVIES
1985, Volume 3 (four issues)
Institutional rate: US \$ 84.00 per volume including postage and handling
Private rate: US \$ 40.00 per volume including postage and handling

Reviews in Chemical Engineering

Editors: NEAL R. AMUNDSON and DAN LUSS
1985, Volume 3 (four issues)
Institutional rate: Dfl. 260,- per volume including postage and handling
Private rate: Dfl. 126,- per volume including postage and handling
Available in the U.S.A., Canada, and Israel from Freund Publishing House

Journal of Atmospheric Chemistry

Editors: P. J. CRUTZEN and D. H. EHHALT
1985, Volume 3 (four issues)
Institutional rate: US \$ 78.00 per volume including postage and handling
Private rate: US \$ 38.00 per volume including postage and handling

Natural Language and Linguistic Theory

Editors: FRANK HENY and JOAN MALING
1985, Volume 3 (four issues)
Institutional rate: US \$ 66.00 per volume including postage and handling
Private rate: US \$ 24.00 per volume including postage and handling

This is a brief listing of new Reidel journals. For more information on these publications, or on Reidel's extensive range of older journals, please write to the address listed below. Sample copies are available on request.

D. Reidel Publishing Company

P.O. Box 17, 3300 AA Dordrecht, The Netherlands
190 Old Derby St., Hingham, MA 02043, U.S.A.

SCIENCE JOURNALS

Tuning up

Music Perception: an interdisciplinary journal edited by Diana Deutsch. Quarterly. University of California Press. \$60.00 per annum (institutions), \$30.00 (individuals). ISSN 0730-7829

During the past ten or twelve years the study of the perceptual/cognitive processes involved in listening to and performing music has undergone a metamorphosis. Until fairly recently the area has been regarded as something of a backwater, at least as far as mainstream psychology in Britain is concerned. The processes involved when one listens to Mahler or Miles Davis have been regarded as unimportant or unrepresentative of general function, compared with those required for the recognition and recall of strings of nonsense syllables or extracts from tables of random numbers!

However, since the 1970s an increasing number of notable workers in the area of perceptual and cognitive processes (if the distinction may still be allowed) have undertaken music research. The majority of this work has come from the United States, but there have also been important contributions from Europe, Scandinavia and Britain - although the number of serious regular contributors here can probably be counted on the fingers of one hand.

A consequence of the recent upsurge of interest in music as an area in which particular modes of processing may be studied with profit is that there has been a steady increase in the number of articles on the topic by

prominent figures, appearing in mainstream experimental and cognitive journals. Real progress has been made not merely in the explanation of the importance of stimulus properties such as tonal complexity, transients, frequency and so on, but also in the area of perception of form and structure which are fundamental to music perception, and to perception generally. In particular, the investigation of the observer as an active organizing agent who imposes form and structure on material has replaced, or at least become complementary to, the study of stimulus properties. There are vast opportunities here for the investigation of how people deal with meaningful material - other than verbal symbols - research which can in fact indicate the limitations of studying more impoverished stimulus realms.

Given the above rising tide of interest, it is only natural that a major new journal should now be launched dealing solely with these issues. The editor, Professor Diana Deutsch, is certainly the most prominent psychologist

working in this field, and she has assembled a talented editorial board from a variety of disciplines. The contributions are of a generally high standard if the first three issues are anything to go by, although a certain amount of the material consists of recent "rehashes" which will be already familiar to those conversant with the current literature. However, it is early days and the fact that most of the important work will now be easily accessible through a single journal is surely invaluable.

Although existing journals dealing with music are all too often of an unscholarly nature (some indeed are frankly magical), the British journal, *The Psychology of Music*, is not one of these. It contains interesting and valuable material with some regularity, but it does suffer from another problem: the contributions are rather variable, and as a psychologist I find some of the articles by musicologists and music educators unsatisfactory and occasionally somewhat weird. (No doubt they have similar feelings about the psychological contributions.) My reaction to *Music Perception* was from time to time rather similar: the same polarization between musicians-who-would-be-scientists and scientists-who-



John Booth Davies is senior lecturer in psychology at the University of Strathclyde.

strives to span established disciplines, it is a pity that the two approaches seem often to derive from largely independent literatures.

I do hope that the existence of a major new journal does not mean that editors of journals which have hitherto published contributions in the areas of music perception and cognition will now feel justified in rejecting articles on the grounds that there is a "more suitable outlet". Although in the short term this new journal will be welcomed by all those interested in problems of music perception, in the longer term it remains to be seen whether others will stick to their traditional sources. I also hope that the journal will serve to enhance and broaden the scope of the study of music perception rather than merely concentrate it all in one place, where it can be ignored by those with a preference for explicating the meaningless or the nonsensical.

John Booth Davies

John Booth Davies is senior lecturer in psychology at the University of Strathclyde.

Hankering after the past

New Ideas in Psychology: an international journal of innovative theory in psychology edited by Pierre Moensinger, John Broughton and Richard Kitchener. Three yearly. Pergamon Press. \$65.00 per annum (institutions), \$30.00 (individuals whose institutions subscribe). ISSN 0734-118X

The editors of this journal start from the rather jaundiced point of view that "psychology has assumed the character of a routine activity, and in this respect exhibits an unfortunate resemblance to any other established bureaucratic profession". Their aim is to reawaken the enthusiasm and excitement which they associate with earlier periods of psychological investigation by promoting "the writing and publication of innovative theoretical and research papers". Hardly a distinctive aim, you might think, and not a promising attitude with which to attract the attention of most practising psychologists. Indeed, the four issues which have appeared so far provide little indica-

tion that this journal will have much impact upon the development of psychology in the immediate future.

Very few of the contributions actually attempt any serious theoretical integration or conceptual development. Notable exceptions are two different papers which compare the theoretical systems of Freud and Piaget, a discussion of the relevance of artificial intelligence to ethology, a critical evaluation of attempts to teach language to apes, and a discussion of the similarities between interpersonal expectancy effects and para-psychological phenomena. Each of these might easily have been published in an established journal such as *Psychological Bulletin*.

Many of the remaining papers are merely unreasoned, partisan attacks upon professional rivals, based solely upon differences of opinion or differences in the definition of key terms. This is especially true of the peer commentaries which follow most of the original papers. Although these occasionally make constructive objections to specific points, they are more often quite unpleasant diatribes lacking coherent argument. As one of the injured parties rightly comments in his reply, "a debate at this abhorrent level generates nothing but excited tempers".

To some extent, this problem reflects the authors' inability to present a convincing and well-structured case in a concise manner. (Original papers in this journal are normally restricted to 25 pages of typescript, commen-

taries to 10 pages.) Some contributors try to get round this limitation by baldly stating the conclusions of arguments which (we are assured) are presented in more detail and in a more convincing manner elsewhere. Indeed, some papers give the impression of being notices of recently published books, and one contributor goes so far as to provide a detailed reading list consisting largely of his own publications. More surprisingly, authors are also restricted on the length of abstracts; as a result, some are ludicrously uninformative, while others are non-existent.

Although many of the papers discussing actual psychological theories are concerned with the work of Piaget, the editors assure us that this bias is unintentional and that they expect more contributions from other theoretical orientations in the future. Perhaps to fuel the editors' nostalgia, a number of papers also consist of commentary upon and exegesis of writings from earlier in this century. However, many papers are not even concerned with psychological research, and instead are devoted to more general philosophical issues. Describing such issues as "conceptual" or "meta-theoretical" does not disguise the fact that they are already widely discussed in many other journals. Where these papers do bear upon psychology as an academic discipline, they are typically ex cathedra pronouncements by philosophers and others on the fringes of the discipline about the proper business of psychologists.

One unusual feature of this journal is the inclusion of interviews with supposedly influential figures. Unfortunately, these manifest the same failings as the more conventional contributions. They are variable in quality and depth, and they are almost entirely lacking in sustained argument. Academically, they are very much at the level of a genial after-dinner conversation. Indeed, the only consistently readable contributions to the journal are the book reviews, which I found uniformly well written and informative.

In setting up this journal, the editors indicate they wished to foster "a caring attitude toward the potential beneficiaries of psychology, or toward the field itself". My overall impression is that this admirable goal has been betrayed. I could detect no concern for, indeed, no interest at all in the practice of psychology in contemporary society, and little in the way of disinterested regard for the future development of the discipline. This journal does, however, illustrate the barrenness, artificiality, and egotistic nature of the worst type of academic infighting. Certainly, this is not a journal either by or for mainstream psychologists.

John T. E. Richardson

John T. E. Richardson is a senior lecturer in psychology at Brunel University.

Journals received

The following journals were received from publishers but could not be reviewed in this issue. Those marked with an asterisk may be reviewed at some later date.

ASTRONOMY
Astronomy Express (Cambridge University Press)*
BIOLOGY AND MEDICINE
Acta Alimentaria: an international journal of food science (Raidel)
The Einstein Quarterly Journal of Biology and Medicine (Springer)
European Journal of Biomedical and Biomedical Psychology: official publication of the International Society for Experimental Hematology (Springer)
Gene Analysis Techniques (Elsevier Science)
Human Toxicology: an international journal of clinical toxicology (Taylor & Francis)
Journal of Carcinogenesis (Academic)
Journal of Molecular and Cellular Immunology (Springer)
Journal of Pharmaceutical and Biomedical Sciences: an international journal on all drug-related topics in pharmaceutical, biomedical and clinical analysis (Pergamon Press)
Magnetic Resonance Imaging: an international journal of basic research and clinical applications (Pergamon Press)
Manual Medicine: official journal of the International Federation for Manual Medicine (Springer)
Microbiological Sciences (Blackwell Scientific Publications)
Practical Biotechnology (Baltimore Thindal)
Sentinel's in Diagnostic Pathology (Grüne

and Stratton)
Statistics in Medicine (Wiley)
Theoretical Medicine: an international journal for the philosophy and methodology of medicine research and practice (Raidel)
Trends in Biotechnology (Elsevier Biomedical)
World Journal of Urology (Springer)
COMPUTER SCIENCE
Journal of Logic Programming (North Holland)
EARTH SCIENCES
Earth, Moon and Planets: an international journal of comparative planetology (formerly The Moon and the Planets) (Raidel)
Journal of African Earth Sciences (Pergamon Press)
Journal of Metamorphic Geology (Blackwell Scientific)
Remote Sensing Reviews (Harwood Academic)
Soviet Journal of Remote Sensing: a cover-to-cover translation of Issledovanie Zemli iz Kosmosa (Harwood Academic)
Uranium: geology, exploration, mining and mill tailings and environmental aspects (Elsevier Science)
ENVIRONMENT
An international journal of physical, biological, social, and economic geography and applications in environmental planning and ecology (Raidel)
Journal of Atmospheric Chemistry (Raidel)
Journal of Environmental Radioactivity: an international journal (Elsevier Applied Science)
Toxicology and Environmental Chemistry (Gordon and Breach)
Waste Management and Research: the journal of the International Solid Wastes and Public Cleansing Association (Academic Press)
Water Supply: the review journal of the International Water Supply Association (Pergamon Press)
INFORMATION TECHNOLOGY
Computers in Life Science Education (Elsevier Science)
Computing: computers in medical practice (Springer)
Engineering Software Exchange: applications software report for engineers (Elsevier Science)
Microcomputers and Video Technology (Pergamon)

Experiments in Fluids: experimental methods and their applications for fluid flow (Springer)
Innovation: university ideas for industry (physical science/life science/engineering/electronics) (Cartmill)
Journal of Induction Phenomena (Raidel)
Magnetic Separation News (Gordon and Breach)
Mineral Processing and Technology Review: an international journal (Gordon and Breach)
Nondestructive Testing Communications (Gordon and Breach)
Nuclear Engineering and Design/Fusion (North-Holland)
Structural Safety: an international journal on integrated risk assessment of constructed facilities (Elsevier Science)
Thin-Walled Structures: an international journal (Elsevier Applied Science)
ENVIRONMENT
An international journal of physical, biological, social, and economic geography and applications in environmental planning and ecology (Raidel)
Journal of Atmospheric Chemistry (Raidel)
Journal of Environmental Radioactivity: an international journal (Elsevier Applied Science)
Toxicology and Environmental Chemistry (Gordon and Breach)
Waste Management and Research: the journal of the International Solid Wastes and Public Cleansing Association (Academic Press)
Water Supply: the review journal of the International Water Supply Association (Pergamon Press)
INFORMATION TECHNOLOGY
Computers in Life Science Education (Elsevier Science)
Computing: computers in medical practice (Springer)
Engineering Software Exchange: applications software report for engineers (Elsevier Science)
Microcomputers and Video Technology (Pergamon)

PITCOM: Information technology and public
University Computing: the bulletin of the Inter-University Committee on Computing (Blackwell Scientific, in association with the IUCC)
MATHEMATICS
Acta Applicandae Mathematicae: an international journal on applying mathematics and mathematical application (Raidel)
Mathematical Reports (Harwood Academic)
Order: a journal on the theory of ordered sets and its applications (Raidel)
MOLECULAR SCIENCES
C, Molecule Chemistry: an international journal (Harwood Academic)
Electrophoresis: the official journal of the International Electrophoresis Society (Verlag Chemie)
Journal of Molecular Graphics (Butterworths, in association with the Molecular Graphics Society)
Molecular and Physical: an international journal (Elsevier Sequela)
Methods in Organic Synthesis (Royal Society of Chemistry)
Quantitative Structure-Activity Relationships: an international journal in pharmacology, chemistry and biology (Verlag Chemie)
Reactive Polymers, Ion Exchangers, Sorbents (Elsevier Science)
Reviews of Chemical Intermediates: an international journal (Elsevier Science)
POLYMER
Energy Focus: a journal of energy studies in parliament (Longman)
Science in Parliament: scientific and technical matters before the parliaments of the UK and EEC (Longman)
Cities: the international quarterly on urban policy (Butterworths)
PSYCHOLOGY
Behaviour Abstracts (Carfax)
Cognitive Development Abstracts (Carfax)
Psychiatric Development: advances and prospects in research and clinical practice (Oxford University Press)

BOOKS

An overdue revaluation

by J.R. Mulryne

Ben Jonson, Dramatist
by Anne Barton
Cambridge University Press,
£30.00 and £9.95
ISBN 0 521 25883 9 and 27748 5

Among major dramatists of the English language, Ben Jonson has enjoyed the greatest admiration coupled with the least affection. In the minds of non-specialists at least, T.S. Eliot's familiar phrase on his reputation remains mordantly accurate: "damned by the praise that quenches all desire to read the book... afflicted by the reputation of the virtues which excite his least pleasure". Jonson has had his sympathetic interpreters. In fairly recent years, E.B. Partridge, Jonas Barish, Alexander Leggatt and Stephen Orgel have all afforded searching insights into his genius. Yet there has remained a need for a book that makes sense of Jonson's idiosyncratic career, displaying its continuities and explaining its gaps, drawing into relation the man and the work, and connecting all with literature and general culture of the time.

Anne Barton has written such a book. The Jonson who emerges is in many ways a familiar figure: vehemently irascible yet tender-hearted, aloof yet gregarious, the disciple of order yet frequently in trouble, a man whose very creative energy is dependent upon self-division and self-criticism. His literary career takes on a comprehensible shape: the repeated experimentation with comic forms, including other men's plays and recapitulating his own, and the frustrating division into tragedy; the early rejection of Elizabethan models that becomes in the end a nostalgia for things Elizabethan so potent as to require Elizabethan expression.

Professor Barton limits her discussion to the plays; the poems, prose works and masques are mentioned only by way of illustration. Inevitably, the reader carries away a sense of incompleteness, for these omitted literary forms are not only important in themselves, but include the work of years when the theatre-record is blank. The omission of the masque in particular leaves unexplained one of the great enigmas of Jonson's career, the sustained willingness to compose flatteringly masques for a corrupt court. Yet Professor Barton has not offered to write a literary biography, and her 350 pages on the plays are already replete with scholarship and interpretation. Her achievement is that if we don't see Jonson whole, we certainly see a far more humanly engaged and engaging man, wrestling with the difficulties of his chosen trade, and with the injuries of the passing years, than the self-sufficient and scholarly classicist of conventional conception.

Professor Barton's method is largely chronological. The early work is extended by the attractive hypothesis that it includes the extant additions to *It*, now complete for a new generation of readers with editions of the plays that are abreast of modern scholarship and criticism and similar in general scope and design. Two distinctive features of the New Cambridge Shakespeare, under the general editorship of Philip Brockbank, are the drawings by C. Walter Hodges together with other illustrations of stage-performance and the separate treatment of textual problems at the end of the volume, "available to those users who wish to know why and how one publisher's text differs from another". To the reader who requires no more, than a reliable modernized text with helpful footnotes, there might well seem little to choose between the two series, except in price. But, whatever the capacity of the market proves to be, their coexistence is an effective demonstration that no edition of Shakespeare can claim to be definitive and no interpretation conclusive.

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missioned, it is supposed, by the theatre manager Philip Hunslowe as a riposte to the revenge plays of Shakespeare and John Marston then being staged by rival companies. The argument from style against Jonson's authorship is rightly dismissed, while the preoccupation of the additions with father-son relationships becomes supporting evidence in favour of Jonson's involvement. Professor Barton shows indeed that this topic develops into a subject of peculiar emotional resonance throughout Jonson's work, dramatic and non-dramatic alike. In the early plays, it lies behind the intensity of Fierneze's grief in *The Case is Altered* when he believes his two sons are lost. Much later, it helps to explain the strong emotional coloration of the young men's behaviour in *Epicoene* at Morose's expense, due to Jonson's "unconscious assimilation of the uncle-nephew relationship to one much closer, and for him always emotionally charged: father and son." It is characteristic of this book to explain the intensities of *Epicoene* in this humane way, and to reject the more colourful speculations of Edmund Wilson on Jonson as an amoral erotic punishing himself through Morose for all that was regressive in his own nature.

An "obsessive element" in Jonson's concern around 1599 with the rival art of Shakespeare has recently been noticed by E.A.J. Honigmann. Certainly, the convoluted story of Jonson's relationship with the creative imagination of Shakespeare begins early in his career. *Cynthia's Revels*, it is true, reworks the comic mode of John Lyly, not of Shakespeare, and thus serves as one of the earliest examples of Jonson's persistent counterplay with the attractive but (so it seemed at this stage) ironically self-deluding world of the Elizabethan imagination. *Poetaster*, on the other hand, owes artistic debts to *Romeo and Juliet*. *Sejanus*, a few years later, answers the less disciplined and scholarly treatment of Roman history in *Julius Caesar*. Here, the debt may be intricately double, if Professor Barton is right in her hypothesis that the "second pun" which shared the theatre script with Jonson, but which was written-out for publication, was that of Shakespeare. How frustrating to lose, if she is right, a theatre-text jointly composed by the two greatest of English writers for the stage. Later in Jonson's career, his association with Shakespeare's art becomes more a matter of creative borrowing (as one supposes it must have been if *Sejanus* were shared). A newly-emotional, Shakespearean, note enters Wittipol's wooing of Francis Floddit in *The Devil is an Ass*, and the play borrows the Shakespearean expedient of telling truth through play-acting. Later again, with *The New Inn*, Jonson adopts what is virtually a Shakespearean dramatic mode, casting much of the play, in Professor Barton's words, as "a poly-

nant wish-dream". It is a sad irony that Jonson, so often compared with Shakespeare to his disadvantage, the more he imitates his rival, the more certainly his plays have seemed failures, in the theatre and in popular esteem.

The gradual accommodation with Shakespeare represents only one version of the larger adjustment to Elizabethan literature and values which Professor Barton shows is a characterizing feature of Jonson's creative biography. *The New Inn* responds to the work of Lyly, Edmund Spenser, Sir Philip Sidney and the early John Donne, as well as to Shakespeare; at the centre of Jonson's dramatic writing, *Bartholomew Fair* had adopted Sidney, Richard Edwards and Christopher Marlowe (as well as Chaucer) as indices of value. In two of the latest plays, *The Tale of a Tub* and *The Sad Shepherd*, the acceptance of Elizabethan habits of thought and feeling is almost complete. In the first, Jonson offers what is virtually pastiche of a variety of Elizabethan literary modes, and in the latter an Anglicized version of pastoral that lays under contribution not only the classical writers and those of the Italian Renaissance, but also Sidney, Spenser and Michael Drayton. The wheel has come full circle from the uneasy, largely negative, reaction to Elizabethan writing in the earlier work, as Jonson sought to establish his literary personality in opposition to those around him.

This literary development reflects a larger movement in the social and political consciousness of Jonson's time. The chapter "Harking Back to Elizabeth" is in some respects detachable from the rest of the book, and is indeed been separately published. It discusses *The Variety* (1641), the second play of William Cavendish, Earl of Newcastle, Jonson's patron and his admiring successor as dramatist for the King's Men, a work where yearning for an Elizabethan past meets the coming of the Restoration. The hero, Manly's, affectation of wearing Elizabethan clothes finds an echo in the real-life Earl of Arundel, a powerful courtier and recipient of poetic praise from Jonson. The play's Elizabethan nostalgia represents a survival of the queen's death, one that became a source of political opinion, and even a source of possible subversion, in the writing of such men as Fulke Greville and Walter Raleigh. Jonson's literary preferences come to seem, in this intellectual context, more than merely literary.

Professor Barton locates the centre of Jonson's achievement in *Bartholomew Fair*, "an irregular and inimitable masterpiece", the culmination of repeated experience, "the play of the mind of the random flow of life itself, but held within a formal control so strict that no single episode can be spared without loss. Professor Barton discusses at some length Jonson's lifelong interest in the connections between

to his story of young and tragic love", is defended against those critics who have accused the tragedy of meta-physical confusion. Concentrating on the craftsmanship of the play, however, this introduction does not really come to terms with the nature of the central relationship itself. The section on the stage-history, while full of interesting material, is unfortunately hostile to the play, what is "all too common today in Shakespeare productions generally". The vagaries of some recent criticism are treated much more tolerantly.

Ann Thompson's edition of *The Taming of the Shrew* follows hard upon the heels of those for the Oxford Shakespeare (1982), yet her introduction offers a radically fresh and challenging view of the play, in the light of varied attempts to undercut the uncompromising male chauvinism of the taming plot. "If played straight, with a minimum of interpretive direction," she writes, "Shakespeare's play contains no such indication of a comfortable, capitulatory compromise; but, rather,



Ben Jonson, a portrait after Abraham von Blyenberch

new directions in Jonson criticism lies in the reassessment of the late plays. *The Devil is an Ass* is found to be "far better and far more interesting than most of its critics have made out", a verdict endorsed by professional productions in recent times in Edinburgh, Nottingham and elsewhere. *The Staple of News* is less successful, but represents a serious attempt to adapt the morality play to contemporary purposes. With *The New Inn*, Professor Barton, in my view rightly, overturns the original and much-repeated verdict of failure, and argues for "a fine and haunting play". This is a judgment shared by Michael Hattaway in the forthcoming Revels edition, who also sees the court of love as a means towards the discovery of true emotion, and not a burlesque of fashionable neo-platonic practices in the circle of Henrietta Maria. *The Magnificent Lady*, while serious and self-questioning, fails to find its true formula, but *A Tale of a Tub*, provided we overcome the long-established reluctance to credit it as a Caroline play, makes for charming theatre, delightfully re-creating the unity of relationships that defines a country community, near London but not of it. Even *The Sad Shepherd*, in Professor Barton's witty and affectionate account, becomes at once an entertaining and serious play, celebrating those values of communal order by which the later Jonson set such store.

This is a humane, richly knowledgeable book, and highly readable. It will make a permanent contribution to the overdue revaluation of one of our greatest playwrights.

J.R. Mulryne is professor of English at the University of Warwick.

The book's chief contribution to

leaves its audience with the impression that a woman's role consists in graceful submission." The stage-history, however, is a record of the different ways and means by which this unpalatable theme, particularly as expressed in Kate's last long speech, has been ambivalently performed. Similarly, critical tradition has either ignored the play or else "almost universally scholars and critics who enter the fray at all assume a necessity to defend the play even though the attack is rarely articulated". Ann Thompson leaves us with the play's problems and its power to embarrass, irritate and disturb, despite the implication of the Christopher Sly scenes that it is, after all, only a play. If subsequent editors in the series show something of the same spirited engagement with the plays in their theatrical and critical contexts, the New Cambridge Shakespeare will be enlightening as well as illuminating.

D. J. Palmer

D. J. Palmer is professor of English at the University of Manchester.

Alike in dignity

Ohello
edited by Norman Sanders
Cambridge University Press, £15.00 and £2.95
ISBN 0 521 22339 3 and 29454 1
Routledge and Kegan Paul
edited by G. Blakemore Evans
Cambridge University Press, £15.00 and £2.95
ISBN 0 521 22223 0 and 29405 3
The Taming of the Shrew
edited by Ann Thompson
Cambridge University Press, £15.00 and £2.95
ISBN 0 521 22195 1 and 29388 X

Appropriately decked in covers of light blue, the New Cambridge Shakespeare is an obvious rival to the series currently under way at Oxford. The two households, both alike in digni-

ty, now compete for a new generation of readers with editions of the plays that are abreast of modern scholarship and criticism and similar in general scope and design. Two distinctive features of the New Cambridge Shakespeare, under the general editorship of Philip Brockbank, are the drawings by C. Walter Hodges together with other illustrations of stage-performance and the separate treatment of textual problems at the end of the volume, "available to those users who wish to know why and how one publisher's text differs from another". To the reader who requires no more, than a reliable modernized text with helpful footnotes, there might well seem little to choose between the two series, except in price. But, whatever the capacity of the market proves to be, their coexistence is an effective demonstration that no edition of Shakespeare can claim to be definitive and no interpretation conclusive.

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BOOKS

A new class

The Russian Worker: life and labor under the tsarist regime
edited by Victoria E. Bonnell
University of California Press, £25.00 and £7.65
ISBN 0 520 048377 and 050592

"In the ten years that I have lived with workers, I have rarely met anyone who did not dream of changing his occupation." So wrote the Russian metalworker, P. Timofeev, in 1906. In compiling this collection of extracts from three workers' memoirs and two reports of working-class life by social investigators, Victoria Bonnell tells us that her aim was to comprehend the "daily lives and mentalities" of Russian workers in the period prior to the

First World War. Her volume admirably achieves its purpose: first, in providing us with rich ethnographic data about the everyday work and life of workers; second, by allowing us to delve into the inner world of these men and women, to glimpse their hopes, fears and desires, to understand how they defined and experienced their situation.

At the end of the nineteenth century there were about 6.4 million hired workers of all kinds in the Russian Empire, of whom 2.4 million were factory and mine-workers. They were a highly variegated social group, stratified not only by occupation and skill, but by degree of proletarianization, gender, age and education. Bonnell chooses her extracts with a view to illustrating the diversity of experience of this new working class. In addition to the memoirs, which describe the position of metalworkers and textile workers, the two most important groups of factory workers - there are reports on the sweatshop tailoring trades in Moscow and on the conditions of shopworkers.

The picture of working and living conditions which emerges from these accounts makes for bleak reading.

Concluding a catalogue of the disadvantages and injustices suffered by textile workers, the engineer F. P. Pavlov wonders "whether there is an administrative or political power anywhere in the civilized world that can control an individual so completely, down to the last detail, as does the director of a Russian factory". Yet conditions in factories were generally better than in small workshops or retail outlets, where female and child labour predominated. One shop girl reported that "the first thing the shop owner or manager says when you ask for a job is: 'Are you ticklish? If you bat your eyes and not your head suggestively, the job is yours'".

The control exercised by the employer over the worker's life extended beyond the workplace, for two out of every five factory workers and most workers in artisanal enterprises depended on their employers for lodging. Pavlov describes the regimentation and lack of privacy which characterized life in factory barracks, but conditions in privately-rented accommodation were probably worse, with six or more to a squalid, damp, unventilated room. After working six days a week for eleven or more hours

each day, few workers were in a position to enjoy their leisure constructively: "holidays always seemed to derail us. We would drift aimlessly from street to street until we finally ended up in some beer hall or tavern". All the accounts here testify to the devastating effects on working-class life caused by male drunkenness.

It is in the realm of social psychology, however, that these accounts are most fascinating, in particular, that of the metalworker, Semen Kanatchikov, which is remarkable for the sensitivity with which it recreates the processes whereby peasant migrants gradually acquired a new identity as factory workers. As a peasant I had newly arrived in Moscow, Kanatchikov was overwhelmed by the "crowds of bustling people, rushing to unknown destinations for unknown reasons". On becoming an apprentice pattern-maker, however, he began to identify with the factory, whose "stern poetry of labour" was growing dear to him than the quiet, peaceful, lazy poetry of our drowsy village". He begins to dress in city styles, and to enjoy the status and dignity which accrue to his new position as a skilled craftsman. At the same time, he recalls

his longing to "live in accordance with my own wishes and not by the caprice and will of my father" - in other words, to be free of the village, to be his own man. In the village, he was a son, "to be obedient to my bosses and superiors and have faith in God". Only gradually did Kanatchikov slough off the psychic domination of his father, to become, first, one of that small elite of worker-intellectuals, who "believed in science and appreciated the great service that knowledge can render", and later, a socialist.

In a wide-ranging introduction, Bonnell ably sets the excerpts - into their historical context, although a word should have been said about the representativeness and reliability of the memoirs. The fine collection offers reasonable price, the chance to explore from inside the attitudes and aspirations of Russian workers at a critical period.

S. A. Smith

Dr Smith is lecturer in Russian history at the University of Essex.

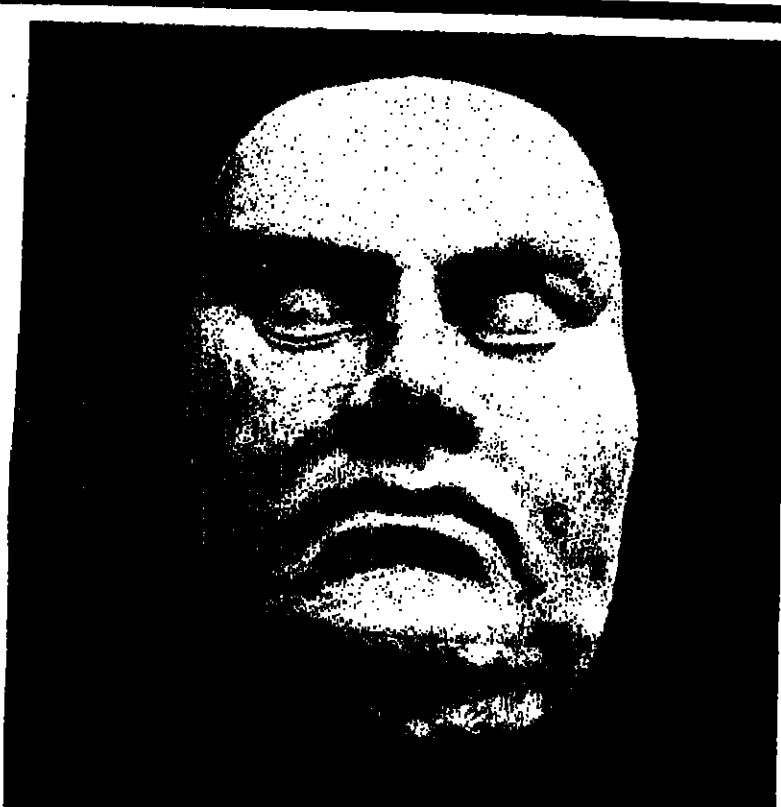
A devotee of Clio

The Political Thought of Martin Luther
by W.D.J. Cargill Thompson
edited by Philip Broadhead
Harvester Press, £22.50
ISBN 0 7108 06787

If, as it seems, the requirement to believe traditional Christian truth claims has been waived for Anglican bishops, it will be no surprise to the reader that a much respected professor of ecclesiastical history in the University of London was far more a devotee of Clio than of Christ. In a one-time pupil of the anti-clerical and enigmatic Christopher Morris of King's, Cambridge, such a creed would in any case have been *de rigueur* and in no way softened by the subtle thrusts of Norman Sykes who was the first really to train Cargill Thompson's mind in Reformation studies. Introductory observations to be sure, but relevant enough in seconding the suggestion of emeritus Professor A. G. Dickens (who has contributed a preface to this posthumously-published study) that Cargill Thompson would most readily have agreed to be gazetted an intellectual historian - particularly one who to the end of his brief span "retained a predominant interest in the seminal ideas of intellectual leaders".

Political thought has of late staged something of a comeback, not merely as an intellectual discipline, but because of the way such studies can deepen the average individual's grasp of the ideological bases of government. Inherited by a whole spectrum of societies in the contemporary world. Simply by challenging the papal and imperial order, the Reformation of the sixteenth century effectively questioned the structure of medieval society, its theory and practice. And Martin Luther achieved this not as a rising pastor determined to restore primitive purity to the faith and at the same time denounce the Roman antichrist for overthrowing the divinely prescribed order of world government. In short, Luther himself never consciously showed interest in the ingenious qualifications which could adapt and update the practical wisdom of Plato and Aristotle to a new political situation. The institutions of the empire that he inherited at the start of the sixteenth century as a loyal subject of the Saxon Elector were God-given, and Christian faith supremely commanded obedience to the status quo and by no means gave the idealist leave to search out the best form of government.

This is not to imply that Wittenberg's professor of biblical studies lacked idealism - merely to point out that his idealism was of a different kind. Convinced as he was that scripture contained the divine blueprint for government, Luther emphasized that God had himself directly instituted secular authority, and that the Almighty by no means intended this to be mediated by the popes of Rome. Nor might men rebel against such lawful authority, even doctrines of non-resistance being at best a questionable last resort. His protest also made a basically biblical distinction between temporal and ecclesiastical



Luther's death mask, an illustration from Martin Luther's Last Will and Testament by Tibor Fabiny (Collin Smythe, £17.50).

spheres, the role of the Christian ministry being purely admonitory with none of the temporal sanctions traditionally claimed by the papacy. The parallel with Augustine - particularly the notion of a continuing state of war involving the two kingdoms of God and Satan - is useful but never precise. "Augustine's ideas were so vague as to be capable in subsequent centuries of being interpreted in a wide variety of different ways, whereas Luther's were relatively clear, concrete and unmistakable".

The weakness of the analysis relates to a surprising sin of omission - namely Luther's continuing debt to the Apostle Paul. For although Cargill Thompson makes much of the usual New Testament references to both Paul (in Romans xiii) and indeed Peter (in I

Peter ii), he does not once discuss Luther's absolute obsession with Paul's teaching. For granted his initial grasp of Pauline *Justificatio sola fide* in the celebrated *Turnerlebnis*, the Wittenberg reformer's whole outlook was effectively conditioned by Pauline precedent, his so-called "political thought" proving no exception to this general rule.

Philip Broadhead has done signal service to the discipline by getting Cargill Thompson into print. Such posthumous publication is always difficult to achieve. Broadhead merits the praise so rarely given to unselfish editors.

Peter Newman Brooks

Peter Newman Brooks is a fellow of Robinson College, Cambridge.

Pursuit of political consensus

France in the Age of Henri IV: the struggle for stability
by Mark Greengrass
Longman, £5.50
ISBN 0 582 49231 3

Dr Greengrass's purpose, ambitious within the brief format of the new "Studies in Modern History" series, is to provide "some of the interim conclusions" of current research into the French civil wars, and a revision of historical perspective" on the reign of Henri IV.

The civil wars themselves, the continuing political and religious tensions as Henri consolidated his power, the economic problems of the kingdom, the wider European situation and the policies of the king for restoring stability to his turbulent dominions are all considered in a judicious mixture of generalization and detail, enlivened by apt quotations from contemporary sources. He clearly demonstrates the variety of French provincial experience and attitudes, especially on opposite sides of the St Malo/Geneva cordon. The only current in modern historiography which he does not favour is the recent emphasis on patrimonial politics, lineages and clientelism, as a counterbalance to the role of institutions and social groups, although he does mention the dependants of the higher aristocracy. It may be that he assumes the dynamic aspect of politics and society, but it does need stating unambiguously.

Henri IV is rightly shorn of the posthumous reputation created for him by the Duc de Sully and other eulogists. Yet he was undoubtedly a shrewd politician. He could not act freely because he owed his acceptance as king to many different groups, and dared not renege on his earlier undertakings to them. He therefore became a master of compromise. Pursuing a moderate religious policy which

pleased few Frenchmen, he did not alienate any significant number of them to the point of insurrection. Moreover, if any religious group formed "a state within a state", it was not the Huguenots, but the *ligueurs* towns of the north. Moderation also characterized his approach to finance and justice, and to foreign affairs where the myth of the grand design is exposed.

This book vividly proves that Henri was, and could be, no great reformer. Rather, says Dr Greengrass, he established a political consensus. Yet is this not too positive a term? The view of Norbert Elias, who is not mentioned, that the king established "an equilibrium" among rival social groups, families and institutions may be nearer the mark.

It is amazing how much has been crammed into this short work. There are few omissions and even fewer factual errors, and only occasionally is the interpretation misleading. For example we are told of Henri's "sensitive creation of new peers", when in fact he created only three, one of whom rebelled against him. He also compares a French and a Spanish writer on the importance of the "middle sort" in society, but L. Roche Flavin was talking about the importance of bureaucrats whereas Goussier de Celorigo, a typical *arbitrista*, wanted more middling men in commerce. Lastly, for these lapses are very rare, we are told that falling agricultural production can be measured by title returns, and it is only in a much later footnote that we learn of title strikes and the misappropriation of these revenues by landowners.

The only other criticisms of this admirable book are technical, intended "primarily for students": the inclusion of 809 lengthy bibliographical footnotes for 161 pages of text, plus a bibliography of 395 items which include 73 primary sources, is perversely erudite. Fewer titles and notes, some guidance on further reading and more of Dr Greengrass himself would be preferable.

Roger Mettam

Roger Mettam is senior lecturer in history at Queen Mary College, London.

BOOKS

Beside oneself

Personal Identity
by Sydney Shoemaker and Richard Swinburne
Blackwell, £15.00 and £5.50
ISBN 0 631 13208 2 and 13432 8

Contributions to the debate about personal identity come thicker and faster each year. Most take off from the famous chapter 27 of book II of John Locke's *Essay Concerning Human Understanding*, which made a distinction between the criteria of identity for a man and the criteria of identity for a person.

Being the same man as the British Prime Minister of 1972 would consist, for Locke, in being a collection of atoms carrying on in 1984 the same pattern of biological organization as the set of (largely different) atoms which constituted the human body of Edward Heath in 1972. Being the same person, however, would consist in carrying on the same consciousness, memory, character traits, skills and so on as was possessed by the quondam Leader of the Conservative Party at the earlier time. Locke thought it conceivable that the same consciousness might be possessed by a different human body - that the man Norman Tebbit, say, might wake up one morning with intimate memories of Margaret Thatcher and Macmillan cabinet meetings, but no recollection of life as an airline pilot. The possibility of "body-swapping", as this has been called, has been argued against by David Williams, and for by H.P. Grice and Anthony Quinton, *inter alia*, and has been caught up in wider discussions of the possibility of fission (Nigel Lawson as well as Tebbit comes to inherit Heath's consciousness) and fusion (Tebbit takes on the combined consciousnesses of Heath and Wilson), confused by science-fiction-type descriptions of brain transplants, and "brain-state transfer procedures". Derek Parfit told us in 1971 that personal identity did not matter, but continuity and connectedness of consciousness did; and he has now, in a large work published within a few months of these by Shoemaker and Swinburne, argued

massively for the view that "we are not what we believe ourselves to be" - that is, not human individuals but consciousnesses or sets of memories - types rather than tokens of personality. The mental criteria which Locke thought appropriate for persons seem, in the 1980s, to have more supporters than the biological criteria which Locke thought appropriate for men.

Shoemaker is with the majority in this "great debate". But Swinburne is not on the other side, in the sense of denying any distinction between being the same person and being the same human body. Swinburne too allows for body-swapping. But this is because Swinburne identifies the person with what Locke would have called a "spiritual substance", the possessor at any moment of mental attributes such as hoping, fearing, thinking, feeling, itching and grieving. For Swinburne, for Bishop Butler and Thomas Reid in the eighteenth century, the identity of a person is strict, simple and unanalysable. Psychological and biological facts may both on occasion provide evidence for personal identity, but they cannot constitute that identity. It is conceivable, as in Locke's view, that I, the same person, should wake up one morning with the body of John McEntroe; but it is also conceivable, as Locke thought it was not, that I, the same person, should wake up

one morning with total amnesia, with a complete break in my consciousness. The true "I" for Swinburne is the Cartesian ego, Locke's spiritual substance, which is something other than the thoughts and feelings, memories and experiences which inhere in it.

Shoemaker's persons, on the other hand, are networks of psychological states, causally and functionally related to each other. Shoemaker believes that the instantiation of these states and relationships is in fact to be found in the human brain; and he is willing, therefore, to call himself an advocate of "materialism" in contradistinction to Swinburne's "dualism". But his account of what personal identity consists in is not logically committed to materialism: he admits that the functional relationships which in his view constitute personal identity could, logically speaking, be exemplified in non-physical states. He thus applies to personal identity the views about physicalism which are typical of functionalists like Hilary Putnam. Indeed Shoemaker sees his position on the subject of personal identity as a consequence of the functionalism which he espouses in the philosophy of mind.

Each author writes clearly and economically and provides a useful survey of the familiar positions in this debate. Shoemaker's view of the connexion

between a Lockean theory of personal identity and contemporary functionalism is admirably worked out and elegantly expressed. Swinburne, like Butler and Reid, has a tendency to jump on our plates a "simple, analysable concept", about which, consistently enough, he is adding further to say. One suspects, however, that there is more to be said, particularly in connexion with the concept of the self or the first person, some of which has been said by Ludwig Wittgenstein, Peter Strawson and G. E. M. Anscombe. Swinburne's dualism, as much as Shoemaker's materialism or functionalism, provides a fundamentally third-person account of persons. The alternative to a reductionist theory of personal identity does not, it seems to me, have to be an acceptance of "I" as a rigid designator of a simple substance.

The pattern of the book is not "paper and reply, rejoinder to the reply, comment on the rejoinder" but "paper I, paper II, comment on paper I by author of paper I", comment on paper I by author of paper II". This I found disappointing as a debate.

C. J. F. Williams

Dr Williams is reader in philosophy at the University of Bristol.

Failure of culture

Philosophy in Germany 1831-1933
by Herbert Schnedlitzsch
Cambridge University Press, £24.00 and £7.50
ISBN 0 521 22793 3 and 29646 3

If asked to name the major figures in German philosophy between C. F. W. Hegel and Martin Heidegger, it is likely that a contemporary British philosopher would mention more than one of the quartet: Gottlob Frege, Edmund Husserl, Arthur Schopenhauer and Karl Marx. However, Professor Schnedlitzsch deliberately excludes three of these from his history, discussing only Schopenhauer at any length.

His reason is that the others, together with Søren Kierkegaard, are really our contemporaries, highly influential on the twentieth century, but not part of the academic philosophy of the period he covers. Although philosophy, the years he takes, from the death of Hegel to the first work of Heidegger, do form a well-marked epoch, from the collapse of Absolute Idealism to the coming to power of Hitler which brought to an end, among many other things, an age of philosophy.

In the Introduction and first chapter he sketches the background to the period, including the origin and rise of that important institution, the Humboldt University, with its insistence on the unity of research and teaching, which formed the model for modern universities in the Anglo-Saxon world. The idea of such a university had strong philosophical underpinnings.

indeed "the philosophical faculty had taken over the leadership." But the German universities failed to resist National Socialism; failed, as one writer put it, "in their task of spiritually educating the nation". In a sense, the book can be read as a study of this failure of philosophy to fulfil the expectations that such a figure as Immanuel Kant held out for it.

Schnedlitzsch gives as a reason what he calls the "identity-crisis" in philosophy, the question of whether it had the role that Kant and his immediate followers gave to it. Hegel's Absolute Idealism claimed to form both the basis and the crown of all intellectual endeavour. The attack on it was launched in the names of "historical science" and "science" in the sense in which we now use the word. As Schnedlitzsch remarks, when Marx and Friedrich Engels claim to be "scientific" it is the former notion to which they are normally referring; the German word *Wissenschaft* does not translate exactly into the English "science". Nevertheless, the challenge to which much later philosophy is one of the problems for philosophers in this country. One value of this book is that it will cause its readers to reflect on their own beliefs in the role of the universities and of philosophy at the present time. The question which haunts all philosophers, both in the nineteenth and twentieth century, is, as Schnedlitzsch points out, whether there is any role for the subject in an age of science.

There is, however, one important difference between Britain and Germany which emerges clearly from this book, namely the centrality of the notion of culture in the latter country. As far as I am aware, the notion is not discussed in any detail by British philosophers. But it was basic to the idea of the Humboldt University; Schnedlitzsch says "culture, for Humboldt, is the process of self-development of the individual, who embodies in himself a true and moral world. *Bildung*, a term which is wider than our "education" is a key term for the understanding of the period, and the failure of the universities to resist Hitler is seen as a failure to remain true to this ideal, a failure which was rendered inevitable by the rise of science in the modern sense.

The common claim in contemporary German textbooks is that there was a philosophical vacuum between Hegel and Heidegger; Schnedlitzsch shows that much academic philosophizing went on in the universities in this period. His work tells us who was discussed, though I think that none of the figures, not most of the topics which formed the basis of the major controversies, are of great philosophical interest. The value of the book lies in its being a contribution to the intellectual history of the period. In this respect his chapter on "life-philosophy" is of importance, in showing how it was possible for a "metaphysics of the irrational" to come to have great influence. The translation seems to be competently done, though perhaps inevitably the whole still reads like a work of German philosophy.

Other contributors are known to be more sympathetic to idealist themes, including professors Brand Blanshard, J. N. Findlay, T. L. S. Sprigge and W. H. Walsh. Of particular interest is Findlay's account of a discipline called Absolute-Theory, and Bradley's "domesticated, British" contribution to it. Confessing himself "charmed" by Bradley, Findlay finds considerable coincidences with his own "mystic mandala".

I believe myself that the dreighted world of our common experience, and the language which describes it, are the source of an infinity of philosophical puzzles, which will not yield to Wittgensteinian or similar types of therapy.

This is an appreciation Bradley would have enjoyed. Stuart Candlish, revives in a lengthy footnote the story of *Appearance and Reality* having been rejected by the delegates of the Clarendon Press, upon grounds of imprecision. Candlish suggests that this may indeed have been true, if only informally, allowing Bradley instead to offer the text to Muirhead for his new Library of Philosophy. In 1984 it seems to be the residual pity which causes most problems for his contemporary readers.

David Watson

Dr Watson is dean of the modular course at Oxford Polytechnic.

Finding uses

The Philosophy of F. H. Bradley
edited by Anthony Manser and Guy Stock
Oxford University Press, £22.50
ISBN 0 19 524688 9

Francis Herbert Bradley was technically the most proficient and influential of the second generation of the nineteenth-century idealist philosophers based at Oxford and Glasgow universities. Despite the fact that he did not follow like-minded contemporaries (such as Bernard Bosanquet) into a programmatic concern with public affairs, preferring a lifestyle which would appear bizarre anywhere other than an Oxford senior common room, he also won considerable popular recognition. Perhaps, as J. H. Muirhead suggested, this was because he fitted the model of what a Victorian philosopher should be like. Writing in the early 1930s Muirhead did not hesitate to describe Bradley's three chief works (*Ethical Studies* [1876], *Principles of Logic* [1883], and *Appearance and Reality* [1893]) as "epoch-making".

Such enthusiasm is not generally matched by the modern secondary literature, dominated until the appearance of this volume of essays by Richard Wollheim's masterly study, *F. H. Bradley* (1959, 1969). Here, just over a century after the publication of the *Principles of Logic*, a group of mainly British scholars led by Anthony Manser (the author of a recent, full-length study of the logic) and Guy Stock, set out to assess the current "usefulness" of Bradley's philosophy. Collectively the essays reveal Bradley's equivocal relationship to modern Anglo-American philosophy. In its

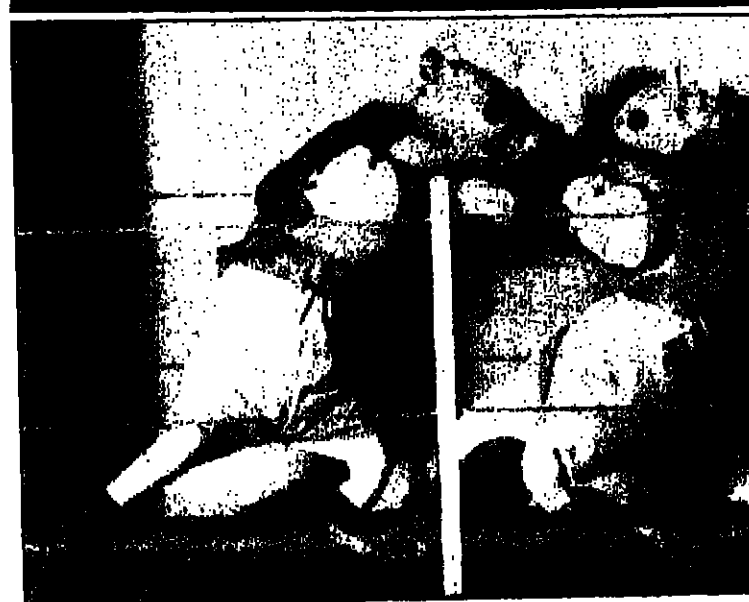
late nineteenth-century context the structure and purpose of Bradley's thought was unambiguous. Investigation into logic and ethics supported a series of speculative metaphysical insights. Together these strands culminated in a profound, if unorthodox, religious commitment. As he quoted from his notebook in the preface to *Appearance and Reality*: "Metaphysics is the finding of bad reasons for what we believe upon instinct, but to find these reasons is no less an instinctive act".

For many professional readers of Bradley today his metaphysical monism and his religious mysticism are embarrassing. Conversely his work on logic (particularly on relations) and his scepticism (ultimately all three of his major works could be said to reach sceptical conclusions) find all sorts of contemporary resonances and are correspondingly admired.

Two tendencies especially are at work in this collection. One is to show how Bradley could have reached respectable conclusions without recourse to metaphysics as a method or monism as a conclusion. This is the approach taken by Richard Blackburn in developing an alternative "naturalized epistemology". James Allard in re-viewing Russell's attack on Bradley's principle of sufficient reason ("every true judgment is necessarily true"), and David Holdcroft in examining the relationship of Bradley's theory of truth to his holism.

The second, revealed most clearly in the editors' introductory essay, is to allow space for Bradley's monism but to emphasize its affinities with more acceptable modern versions such as that of W. V. O. Quine. Put crudely, the result is that we are led towards a Quinean version of Bradley which substitutes Nature for his Absolute and scientific method for a system of relational thought the final inadequacy of which Bradley always acknowledged.

A significant minority of contribu-



The National Trust Manual of Housekeeping (Allen Lane, £14.95) explains methods employed by the Trust "preventative conservation". The boxing squirrels above are from a collection of taxidermy at Castle Ward.

The Art of Autobiography in 19th- and 20th-Century England

A. O. J. Cockshut

In this elegant and eloquent book, a leading literary critic discusses both well-known and obscure autobiographies of the nineteenth and twentieth centuries, addressing himself to questions of truth and quality in autobiographical writing. Included in his study are works by Boswell, Byron, Ruskin, John Stuart Mill, Newman, Bertrand Russell, Beatrice Webb, and J. R. Ackerly. £10.95

Yale University Press
13 Bedford Square, London WC1B 3JF

BOOKS

Irrational beliefs

Rationality and Relativism: in search of a philosophy and history of anthropology by I. C. Jarvie
Routledge & Kegan Paul, £15.00
ISBN 0 7102 0078 1
Understanding Cultures: perspectives in anthropology and social theory by Robert C. Ulin
University of Texas Press, \$19.95
ISBN 0 292 71088 7

Anthropology has always oscillated between its routine activity, the detailed investigation of exotic societies, and a higher profile, when it makes broader assertions about humanity and the human understanding. One way in which it has achieved this broader significance in recent years has been the "rationality debate", from which both these books take their rise.

This is a wide-ranging discussion about the implications of anthropology's attempts to deal with "irrational" beliefs for some long-standing philosophical issues; while, in return, some

of the assumptions of anthropology have been called into question. At the heart of the discussion has been the issue of relativism: a bogey for philosophers which has been a cardinal value of many a working anthropologist. An intriguing feature of Sir Edward Evans-Pritchard's great book *Witchcraft, Oracles and Magic among the Azande*, which has fuelled the entire debate, is its seemingly ambiguous stance here. He frankly adopted scientific criteria for the description of the phenomena, but declared his object as the explanation of a native work-view; and in later writings he opted even more definitely for interpretive description, rather than scientific explanation. The arguments about rationality and relativism open right into the social sciences' perennial preoccupation with method.

I. C. Jarvie, a philosopher of science with some anthropological background, made his entry with *The Revolution in Anthropology* (1964), a vigorous attack on anthropological method, especially for its functionalism and its "symbolist" treatment of religion, worked out through a detailed examination of the literature on cargo cults. Popperian in inspiration, it was intended *à la* *anthropology* and in this it succeeded: for a while a cut-out cardboard effigy of Jarvie hung in the postgraduate anthropology study-room at LSE. Since then he has elaborated his thesis that anthropology's essential subject-matter is human action, which is best explained by being assessed against various levels of

rationality. *Rationality and Relativism* is unfortunately (though accurately) titled, since a book of essays on broadly the same problems with the same main title, edited by Martin Hollis and Steven Lukes, came out in 1982, and that book made a more significant contribution than this one. For it does add much to what Jarvie has already said; its references to substantive anthropological writing are thin and often dated (much, still on the cargo cults); and I doubt whether its core problem, that of cultural relativism, has the resonance that it did, or perhaps does, still in North America. Jarvie fans will appreciate his punchy style, with its verbless sentences in the manner of advertising copy; and his rather arch way of combining a professed scepticism with opinionated asides (for example, "Far too many anthropologists take religion suspiciously seriously").

Jarvie defines rationality as "our capacity to apply reason to tasks", and argues that it, rather than language, distinguishes human capacity. At the same time science, which is the supreme embodiment of rationality, is the cultural product of only one kind of society. This is worrying for anthropologists, since ethnocentrism is one of their deadliest sins. Jarvie goes on to argue that the rejection of cultural relativism which is thus entailed is quite consistent with the idea that "all men are equal moral worth". He has little trouble in exposing the self-contradictory character of the relativist

position of some anthropologists as M. J. Herskovits. A thorough-going moral relativism, he argues, is condescending to the anthropologist's subjects and refuses to take ethical disagreement seriously. Respect for others is not incompatible with the avowal of one's own moral and cognitive standards, themselves nationally held if held open to criticism.

For all that this is clearly and honestly said, Jarvie's view of anthropology is jejune. Rationality in his sense is not the only criterion relevant to the assessment of human activity. Religions, especially primitive religions, do indeed contain much "putative cognition" about the world and are to that extent subject to "rational" assessment, but this is far from being their only aspect, and Jarvie's way of writing off anthropology's attempts to deal with their symbolic and ethical sides is cavalier. Jarvie makes a point of presenting anthropology as itself a community with a culture, not just as a set of propositions, and in places illustrates his argument with examples from his history. That this is so inadequately done is hardly surprising: a Popperian philosophy of science, focused as it is on the best way to assess competing theoretical claims, neither requires much of a history of science, nor serves much of a illuminating one. The values which have moved the anthropological community may be perverse - Jarvie speaks of "the degradations of relativism" - but they have overall been integral to its progress. Take a negative case: Colin Turnbull's notoriously unsympathetic study of the Ik. Jarvie defends Turnbull from anthropological detractors who charge that his emotions corrupted his fieldwork. In fact, as Bernd Heine's forthcoming paper in *Africa* 55 (1) will show, Turnbull's account is grossly incompetent as ethnography (as well as hostile to the Ik). That there are real links between human sympathy and scientific accuracy (which is not tantamount to saying the one guarantees the other) is a crucial element in the practice of anthropology, which requires a much more sophisticated analysis than Jarvie's impatient rationalism seems to allow him.

With all this, I suspect, Robert C. Ulin would be warmly in sympathy: his book is a striking contrast to Jarvie's in both its style and its conclusions. It consists of a critical review of a sequence of texts, starting from the rationality debate, which are chosen to point an argument about what society is, and hence what should be the theoretical framework for its study. This kind of generalized social theory is much more favoured by sociologists than anthropologists, who usually prefer to theorize on a more specific and concrete basis. Ulin's project is to establish the foundations for what he calls a "critical anthropology". He is hostile to the positivist programme for a unified approach to the natural and social sciences, and bases his own case

on a convergence between three strands of thought: the idea of "anthropology as interpretation between cultures", Wittgenstein's philosophy of language as mediated through "understanding a primitive society", and the hermeneutics of Hans-Georg Gadamer. Paul Ricoeur, Jarvie's "rationalist" is for Ulin merely "instrumental rationality", technical rules of procedure, based upon empirical knowledge; there is also (from Jürgen Habermas) "communicative rationality", or the consensus of intersubjective norms, expressed in language and constitutive of social relations. Ulin is rather sympathetic to Wittgenstein in the face of criticisms of him expressed by those participants in the rationality debate who opt for scientific criteria of explanation, such as Jarvie, Robin Horton and Lukes. The trouble, Ulin feels, is that they ignore the fact of power differentials in the communication system which is society. Predictably (but not necessarily) he remedies this defect, after a rather compressed overview of the issues between its structuralist and humanist factions, he concludes with E. P. Thompson's and Raymond Williams' versions of "historical/cultural" Marxism.

This kind of meandering critical tour through a dozen authors is really not the best way to present a theoretical argument. There is hardly the space to do proper justice to the complexities in any single author's work, yet in order to show the context of each contribution, much matter extraneous to the central argument needs to be introduced. The quality of exposition is also rather uneven. The arguments for causal explanation presented by Jarvie, Horton and Lukes are too casually passed over. But Gadamer and Ricoeur are well handled; and Ulin's right to highlight Gadamer's argument against treating tradition and reason as antinomies. Thompson, however, is given more theoretical credit than he deserves. But it is the selection of authors itself which is the really curious thing about a book by an anthropologist that declares itself to be about "reflection on the nature of anthropology as it affects anthropological practice". For of contemporary "anthropological praxis" - what working anthropologists actually do - virtually nothing is said. Horton is the only one considered, and he is found to be "not as systematic" as Jarvie. That may be, but the serious action is with the anthropologists, not the philosophers of anthropology. Those who would tell us about method, would do better to establish it through the examination of methods in use.

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J. D. Y. Peel

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BOOKS

Trouble shooting

The Influence of British Arms: an analysis of British military intervention since 1945 by James H. Wylie
Allen and Unwin, £12.50
ISBN 0 04 320161 X

Post-imperial Great Britain now has a population size and a per capita income which in comparison with all other countries most nearly resembles Italy. Such deterioration in our place in the world league would have amazed everyone who lived in the Victorian Age and, probably, most adult subjects of even so recent a monarch as George the Fifth. Yet our statesmen of all parties, our diplomats and our military experts have for the most part continued to behave in much the same way as they did in the early years of the century. Accordingly they have raised taxes for defence spending on a scale that dwarfs that of Italy. And, worse, they have maintained commitments on such a grandiose scale as to make West Germany and even France appear like powers of a decidedly lower rank.

It cannot go on. For once again we are facing a major defence review. And this time real cuts in commitments must surely come. Indeed the substantial abandonment of at least one of our three major roles is looking increasingly inevitable. We can end our effort to have an undated supplementary nuclear capability; we can drastically reduce the British Army on the Rhine; or we can cease to be a significant North Atlantic naval power. The choice is not easy and our partners do not help by giving contradictory signals about priorities. But, alas, there is now a further complication following our triumph in the Falklands: many at home and abroad conclude, not without reason, that we also have the professionalism and experience to undertake yet another role, namely to be a leading practitioner of "out-of-area" operations essentially on behalf of Nato. But we are not told how the revival of such a capability - a principal intended victim of the last defence review - can possibly be afforded. Verily, the absence of money is the root of all evil.

Thus the publication of James H. Wylie's book could not be more

timely. Formerly in the Ministry of Defence, he is now lecturer in international relations at the University of Aberdeen. He has sought to review the record of British "out-of-area" interventions starting with Suez and ending with the Falklands. Nothing in between is now remembered by the general public. But we in fact undertook a considerable number of highly successful enterprises involving locations as remote as East Africa, Kuwait, Oman, Jordan and Malaysia. Indeed Wylie's passages on the operations at Suez and in the Falklands are the least instructive parts of his book. For, as he frankly recognizes, they were extraordinarily untypical and tell us almost nothing about the kind of tasks that our Nato partners may wish us to undertake in the future. In any case so much has been written about Suez and the Falklands as to leave him with little new to say in the compass of a brief survey.

By contrast, much more valuable is Wylie's work on the now-forgotten episodes between 1956 and 1983. Our record appears to have been remarkably creditable, even bearing comparison with that of France - high praise indeed. The author summarizes the main lessons in each case and, for good measure, treats two examples of our refraining from action (in Rhodesia and in the Cyprus crisis of 1974).

Wylie's thesis is that we have performed best where we had American

support; where it was apparent in advance that the operation could be swiftly terminated; and where an invitation was received from an indigenous ruler. He does not exclude the possibility of further limited enterprises of the same kind in the future. He concludes:

If, for whatever reason, Britain undertakes a limited interventionary commitment alone, or in support of a major United States effort, the circumstances must be right. The lessons of the Suez intervention and the experience of the subsequent decades must be paid due heed. The action should have sound moral foundations; the legal basis for the intervention must be clear; military capabilities need to be adequate for the task to hand; policy consensus with the United States is vital; and the political purpose of the use of military force must be unambiguous.

What Wylie does not attempt is to put the case for "out-of-area" operations in the wider context of the need to reduce or increase commitments. Examining that context is becoming an urgent task for the entire British defence community.

David Carlton

Dr Carlton is senior lecturer in international history at the Open University.



Troops in the Falklands, 1982, an illustration from Field Marshal Lord Carver's book *The Seven Ages of the British Army* (Weldon & Nicolson, £12.95).

Extremism in Britain

Motley's Men: the British Union of Fascists in the West Midlands by John D. Brewer
Gower, £13.50
ISBN 0 566 00696 0
British Trotskyism: theory and practice by John Callaghan
Blackwell, £19.50
ISBN 0 85320 742 6

Interwar politics in Britain differed from that in neighbouring states in that there was minuscule support for communist and extreme right parties. Many explanations have been suggested for this lack; the electoral system; class behaviour; political culture; class loyalty; and growing disgust with the excesses of Nazi Germany. In the 1930s, as now, mass unemployment and disillusion with the major parties did not lead to more votes for ultra-right parties. Support for the National Front and various left fringe parties cannot get 1 per cent of the vote and their personalities and many of their policies find little favour with the public.

But few observers doubt that there has been a decline in the hold of the old consensus politics in both the Labour and Conservative parties, or that there has been a growth of radical politics. The last decade, Mrs Thatcher represents a radical form of Conservatism and various leftist groups have carried

their policies and organizational reforms in the Labour party. What unites the extreme left and right is a "tough-minded" approach to politics, to borrow Hans Eysenck's term.

John Brewer's *Motley's Men* is a brief but welcome addition to the growing literature on the British Union of Fascists. It draws on local newspapers, BUF files and interviews. But it lacks a theme. It presents the results of interviews with 15 former BUF members, case studies of the BUF in Birmingham and in Evesham in the 1930s, and a study of the union's general election campaign in Birmingham, Handsworth in 1966. We have a picture of the fascist member - young, middle-class, apolitical and disenchanted with the established parties and leaders. But the sample and sub-samples are very small.

In explaining the failure of fascism in Britain, Brewer agrees with Robert Benwick's emphasis on the unsympathetic British political culture, but he does not explore this. Support for the movement was confined to a few areas and, as the author admits, "the BUF did not impinge much on ordinary West Midlandsers, their press or their politics".

John Callaghan has written a most useful study of the ideology and practice of Trotskyism in Britain. He traces in loving detail the bewildering array of groups that have split, re-formed and split again since the founding of the Revolutionary Communist Party in 1944. He identifies more than twenty such groups, including the Workers Revolutionary Party, International Socialists, International Marxist Group, Socialist Labour League and of course, Militant. Trotskyists have challenged the British communists and the Labour party leadership. They have their own vocabulary - "rank and file", "parasites", "collapse of capital-

ism" and class "exploitation". "Bourgeois" democracy is always a facade, Callaghan illustrates the leaders' timeless "catastrophist perspective", in which the collapse of capitalism is always "absolutely certain". This perspective arises, according to Callaghan, partly from Marxist ideology and partly from the circumstances of the 1917 revolution and war.

The Trotskyists' real influence is seen in various groups - shop stewards, claimants unions, constable Labour parties and certain trade union branches. Activists are also prominent among Labour party reform groups and conference delegates. Their strength is seen not in numbers, but in organizational and campaign activity, and in effectively articulating their views.

The more sympathetic grass-roots climate of opinion for these views is to be explained partly in terms of many Labour activists' disappointment, even disgust, with the records of recent Labour governments, the decline in membership and the weakening influence of revisionist ideas. Callaghan shows that centrism was essential to the Labour party; if the Trotskyists could not supplant it, then they would try to take it over. "In Britain, the diminutive nature of the Communist Party of Great Britain, together with the 'unique structure' of the Labour party provided, respectively, the negative and positive reasons for the centrism of Labour".

Callaghan is critical of the Trotskyists' economic reductionism, particularly their tendency to regard all political issues as problems of capitalism, their vanguard theory of leadership (easily transmuted to elitism), their theoretical arrogance and their sweeping dismissal of other views and tendencies. He ends with an appeal (surely forlorn) for a reconciliation of

Critical moments

Republicans and Imperialists: Anglo-Irish Relations in the 1930s by Deirdre McMahon
Yale University Press, £20.00
ISBN 0 300 03071 1

During the 1920s British Commonwealth (as opposed to imperial) affairs were, in their official aspect, primarily concerned with constitutional questions, since the dominant South African and Canadian sentiment (if not that prevailing in the Anglophone dominions) called for tangible proofs of a credible independence from London control now existed. By 1931, however, controversy over erudite legal definitions of dominion autonomy, a political luxury reflective of quiet times and expanding interests, gave way to harder issues of economic depression and diplomatic crises. Hence the 1931 Statute of Westminster was of secondary significance even before it passed through its final parliamentary stages, although its enactment was subsequently enshrined in the academic canon as the quintessence of modern Commonwealth mores.

To this underlying displacement of constitutional minutiae by bread-and-butter concerns of stabilization and survival there was one vital exception. In the Irish Free State the coming to power of Eamon de Valera and his Fianna Fáil party in February 1932 marked a move towards, not away from, constitutional and ideological confrontation with the United Kingdom. Deirdre McMahon's book is the first full-length study of a crucial phase in the old Anglo-Irish tussle, commencing with de Valera's decision to suspend payment of annuities and refusal to perform the oath to the monarch and climaxing in the compromises of the 1938 agreement.

This is an indubitably important subject viewed either as a fragment of empire-Commonwealth history or, more narrowly, as a critical staging-post to the Anglo-Irish impasse of our own day. In the former instance, the processes by which the British establishment came to accept (however sourly) the mutability of the 1921 treaty marked a radical shift in metropolitan culture as it impinged on imperial affairs prior to the Second World War; in the latter instance, it was because de Valera's success in effectively liquidating the Commonwealth elements of the treaty did not extend to shifting the realities of partition that a new immobilism in

Irish life was established, ultimately fuelling the post-1969 troubles. Unfortunately, in covering this significant terrain, the author has provided a dull book which conscientiously retails the memoranda unearthed by diligent research in government archives, especially the Public Record Office. Thus we have chapter titles such as "A Visit to Dublin", "The Next Move", "Drift", and "The Dominions are Consulted"; the story is told, but with all passion spent, the official narratives of the various participants never being stripped down to the subtleties of private calculation. Pen portraits are drawn, but not very convincingly; the metaphorical depiction of Malcolm MacDonald's appointment to the Dominions Office as "the arrival of the cavalry" does not possess the ring of authenticity. Much more seriously, the treatment of de Valera is disappointing. Certain of his characteristics - his dominating nature, his Cabinet discussions, for example - are itemized; his sharpening focus on the grievance of partition is rightly emphasized; like some *objet d'art* he is turned this way and that for our inspection, so that we see a succession of his public faces; but the reader is never carried far into the interior of the man whose instincts and beliefs lie at the heart of the tale.

One of the inherent problems here is that, more than in most inter-governmental squabbles, the immediate subject-matter of dispute screened the fundamental factors in play. In the text glimpses are afforded of how de Valera, the *bête noire* of resurgent British Conservatism in the early 1930s, came to be reassessed as an adaptive (though still infuriatingly enigmatic) politician capable of being accommodated within the framework of British interests; how the Free State Prime Minister, for his part, manoeuvred to rid himself of the encumbrance of the Irish Republican Army, while remaining the legitimate voice of the southern revolutionary tradition; and how the Ulster lobby had by 1939 entrenched itself within the Whitehall machinery, so that partition took on a new and embittered permanence. These and other insights, however, are achieved obliquely, through a haze of bureaucratic *reportage*.

Overall, this volume has provided historians with the narrative of an episode in Anglo-Irish affairs only partially available elsewhere, but the last word on the subject is far from being said.

R. F. Holland

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democracy and socialism in the various groups, and an insistence on the revival of inner democracy if Trotskyism is to be an effective counter to Stalinism or the "state capitalism" which has often passed for Labour's idea of socialism. All this struck me as an irrelevant footnote to the excellent analysis provided earlier.

The extreme left and right groups are today less marginal in British

politics than at any time in the past fifty years. They are working to polarize the Labour and Conservative parties further. But, arguably, Thatcherism presents a more formidable challenge to Labour than Militant.

Dennis Kavanagh
Dennis Kavanagh is professor of politics at the University of Nottingham.

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Filling in gaps

Socrates and the State
by Richard Kraut
Princeton University Press, £18.60
ISBN 0 691 07666 9

Professor Kraut devotes the first, and longer, part of this impressive study to a detailed examination of the arguments in Plato's *Crito* which seek to establish that it would be wrong for Socrates, even though he has been unjustly condemned, to try to escape from prison; in the second part he considers "the general political orientation" of Socrates as it emerges from the early dialogues of Plato.

Unique among Plato's "Socratic" dialogues for its positive and closely argued theories, the *Crito* has received considerable attention of recent years, but it has rarely, if ever, received an examination as searching as this. Kraut argues that the dialogue has generally been represented as offering a much more authoritarian view of the laws' relation to the citizen than is justified by the text. He maintains (surely rightly) that the dialogue's insistence that one must abide by promises provided that they are just makes it clear that there can be no question of the law being able to oblige a person to behave unjustly; and he even holds that the dialogue's personified "Laws" are implicitly allowing that a man can in certain circumstances disobey laws which require him merely to undergo unjust treatment. Most controversially, Kraut maintains that the requirement of the "Laws" that Socrates should "either obey or persuade" calls for the citizen who intends to disobey (on grounds that he considers just) to do no more than try to persuade, probably by explaining his position in court. On this view, the "Laws" recognize that, even if a citizen has failed to convince the relevant authorities, he has discharged his moral obligation by giving his explanation, and is therefore morally entitled to persist in his disobedience.

In discussing Socrates' general political attitude, Kraut rightly distances himself from Karl Popper's somewhat crude contrast between a liberal Socrates and a totalitarian Plato. Even though Socrates is not in his view giving authoritarian rights to the laws of Athens, he is clear that Socrates's repeatedly expressed hopes for a moral expert point to the belief that such an expert, if he should emerge, should be given powers as absolute as those of Plato's philosopher-kings - and Kraut does not believe (nor do I) that Socrates is covertly claiming to be such a moral expert himself. But he argues that, despite all his searching criticisms of Athenian democracy, Socrates finds this regime preferable to any existing alternative, because the opportunities for free inquiry that it affords give the

individual citizen a greater chance of attaining complete virtue than is offered by any other system. This contrast of Kraut's rests very heavily on the claim of the "Laws" in the *Crito* that, despite Socrates's expressed admiration for the well-ordered systems of Crete and Sparta, he deliberately chose to stay in Athens, and that this may have implied a preference for Athenian laws. Whether this passage can bear so much weight is questionable - is there not a hint of irony in the claim that Socrates must approve of Athenian laws? And is not his real motive in staying recognized to be a natural loyalty to his native city?

Kraut's study assumes that a broadly consistent attitude underlies the Socratic dialogues of Plato and that it is legitimate to fill in gaps in the expressed arguments. But these are as unresolvable as the presuppositions, and even the most startling of Kraut's contentions are supported by arguments of considerable persuasiveness. Keenly attentive to the detail of Plato's argument, lucid and eloquent in its exposition, this is a study of the highest quality which makes a major contribution to Platonic scholarship.

John Creed

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A striking change

Beyond Objectivism and Relativism
by Richard J. Bernstein
Blackwell, £19.50 and £7.50
ISBN 0 631 13429 8 and 13437 9

Richard J. Bernstein is one of the most interesting of the philosophers presently engaged in the task of rethinking the foundations of the human sciences. Between his last book, *The Restructuring of Social and Political Theory* (1976), and this one to which he dedicates as "a personal and intellectual odyssey", he has discovered the work of Hans-Georg Gadamer and found in Gadamer's philosophic hermeneutics a vital key to the integration of the various currents of thought which have always concerned him.

Gadamer is a pervasive presence throughout this challenging volume and it is his conception of the discipline and logic of interpretation which has enabled Bernstein to move beyond the negative, more purely critical, positions of the 1976 book toward a positive account of the possibilities of the human sciences as hermeneutic and moral disciplines. The change is striking. Gadamer does not even appear in the index of *The Restructuring of Social and Political Theory* and is represented in the bibliography only by an essay written in the context of his debates with Jürgen Habermas. Now Gadamer is everywhere and with him



Statuette of Socrates from Alexandria

the Aristotelian conception of practical philosophy which he has sought to revive. Bernstein regards Gadamer as the thinker who, more than any other, enables the human sciences to escape the dilemma posed by the apparent alternative of choosing between an intellectually untenable objectivism and a morally and epistemologically crippling relativism.

By "objectivism" Bernstein means "the basic conviction that there is... some permanent, ahistorical matrix or framework to which we can ultimately appeal in determining the nature of rationality, knowledge, truth, reality, goodness or rightness." By "relativism" he means the view that, since there is no such matrix, we are irredeemably caught in a jungle of mutually exclusive values and conceptual schemes, no one of which can prove its correctness, no one of which can be used against any other. The problem, for Bernstein as for Gadamer, is how we may save the objectivity of the true and the good without appealing to an ahistorical foundation for our thinking which is simply not available to a historically situated being like man.

It was clear from his previous books that Bernstein was a lucid exponent and astute critic of other men's theories. In *Beyond Objectivism and Relativism* he employs the same talents in showing how Gadamer's account of hermeneutics allows us to make sense of the debates in the philosophy of science and of social sciences, provoked respectively by the work of Thomas Kuhn and Peter Winch, both of whom he defends against the charge of opening the way to a boundless relativism. Between Kuhn, Winch and their critics

he sees not contradiction but differences in emphasis. And if matters did not appear to him in this way to the participants in the debates, he argues that was because they were haunted by what he calls the "Cartesian anxiety" - the fear that, in the absence of an existentially unconditioned starting point for thought, truth would disappear in a morass of equally unjustifiable opinions. Gadamer's vindication of the epistemological value of traditions and prejudices in the human sciences helps Bernstein when, going beyond Gadamer himself, he shows how, in the work of Karl Popper, Imre Lakatos and Paul Feyerabend, as well as Kuhn himself, we see emerging an account of natural science which takes full notice of the inevitability of interpretation in all scientific inquiry. "To emphasize that that appeal to reasons and arguments is contestable and/or fallible and that our idea of what we consider to be good reasons and arguments can change is not to call into question the rationality of this process but rather to characterize the rationality of the self-corrective nature of scientific inquiry."

It is not only in his discussion of the new philosophy of science that Bernstein seeks to extend Gadamer's argument for the universality of hermeneutics. Influenced by Habermas, he argues that Gadamer's view of the human condition as essentially characterized by the omnipresence of interpretation and debate entails political consequences which Gadamer himself generally ignores. The argument is familiar. Crudely put it claims that, if human existence is coextensive with debate, then social and political conditions must allow for free and

equal access to participation in the debate which will determine its institutional form. The Aristotelian notion of politics as a practical science resulting from debate between equals is utilized as an argument for some unspecified form of egalitarianism. Aristotle's belief that political competence requires the common sense of the mature citizen rather than any more specialized scientific knowledge is seen as a vindication of the ultimate goal of modern participatory politics.

Such arguments must be treated with caution. The influence of utopian ideologies on the modern political mind makes it doubtful that we could obtain in mass democracies an equivalent of the informed and cohesive citizenry to which the growth in technology has altered the nature and scope of human action to such an extent that today the application of practical wisdom requires, as its necessary precondition, a degree of theoretical knowledge that has no past equivalent. These are issues with which Bernstein will have to engage if he is to carry further his attempted reconstruction of the foundations of political praxis. In answering certain questions as well as it does, Bernstein's book opens the way to debate upon matters which are vital to his purpose but on which he has as yet said nothing.

David J. Levy

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BOOKS

Peruvian monkeys

Five New World Primates: a study in comparative ecology by John Terborgh Princeton University Press, £34.70 and £11.70 ISBN 0 691 08337 1 and 08338 X

A biologist can easily find the perfect excuse for travelling to remote parts. Less fortunate colleagues have been heard to complain that all you have to do is to find an exciting spot, select an unusual animal that lives there, think of a reason for studying it, and then send in a grant application.

The story behind this particular monograph starts in Peru where the author, a biologist from Princeton, was studying the birds in the tropical forest. Although birds can be splendid creatures, the author, like others before him, found that their charm paled as the local primates paraded themselves before his binoculars. Sensibly he switched to monkey-watching. Who could resist working on such an extraordinary and unique fauna of 13 primate species, all to be found within one area? The monograph is mainly concerned with five of these: the brown capuchin, white-fronted

capuchin, squirrel monkey, Emperor tamarin, and saddle-backed tamarin. The title of this volume (the first in a new series of monographs in behaviour and ecology edited by John Krebs and Tim Clutton-Brock) gives the impression of a highly specialized work. In the sense that it is written for the professional biologist and not the layman, it is correct, but it is certainly not for the primatologist alone. It is not just a natural history of the five species but a penetrating study of the role of the primates in the tropical forest. Botanists and entomologists will find it rewarding, for the fate of the monkeys and their plant and animal foods are as intimately intertwined as the lianes. Those interested in behavioural ecology and in the evolution of social systems, will find many useful examples and also an intelligent presentation of the associated theoretical issues. There is little, however, on social interaction within primate groups, as this was considered peripheral to the main ecological questions. One bizarre point is that the reader has to wait until the middle of chapter three for a clear statement of which five species the title includes. Some studies of primate ecology have suffered from the observations being made where the animals' diet is supplemented or their habitat disturbed. This is not so in darkest Peru. The author's study area lies in pristine forest, so far untouched by the exploitation sweeping across Amazonia and which can only be reached by a seven-day journey across the Andes. No wonder that it is undisturbed and the monkeys fearless of man. The fascination of the five monkey

species lies in their behavioural ecology. All are omnivores enjoying a diet of fruit (mainly for carbohydrates) and animal prey (mainly for protein). In spite of this superficial similarity, they differ in body size and they live in groups of different size and structure. They also show contrasting degrees of territoriality. The two tamarin species even share commonly held territories with jointly defended boundaries, a most unusual situation in mammals. To unravel the meaning of this diversity, the author established a collaborative project with several assistants. Their working hypothesis was that the interspecific differences represent adaptations for exploiting food resources which are distributed in different ways across the forests and the seasons. Comparisons between species are facilitated by organizing the book on a topic by topic basis. Issues such as activity patterns, use of plant resources, foraging for prey, ranging patterns and the ecology of mixed troops are dealt with in separate chapters. The same quantitative methods were used for each species, so that interspecific comparisons within this study can easily be made. Unfortunately, however, as there are no standardized methods for sampling the behaviour of forest monkeys, detailed comparisons between different projects remain irritatingly difficult. An important quality of any scientific method is that it should be readily possible for other workers to understand and use it. How else can the validity of observations be checked and extended? The methods used here to sample activities and record feeding

seem particularly odd. Surely, in spite of the contrasting aims and operational problems of different studies, some measure of agreement on sampling methods should be possible. Perhaps the main factor helping to explain the contrasts between the different omnivores is the relationship between body size and ecological niche. Put simply, body size constrains the way in which a species can exploit the different facets of its environment (and vice versa). Thus, while the species all live in the same area and have potential access to the same resources, the extent to which they can use them economically depends on their body size. For example, small, distributed resources (nectar, many insects, sap and isolated fruits) can only be exploited economically by the smallest species. The larger species must specialize on larger concentrations of fruit and on leaves. In this way body size and diet are intimately linked and almost inevitable relationships established between these factors and home-range size, habitat selectivity, anti-predator strategies, biomass, etc. The value of this book lies not so much with the general relationships discovered, many of which have been proposed before, but with the way these are revealed within this one New World primate community. After this good start to the series, it will be interesting to watch how publication proceeds in what is a traditionally difficult area to publish with profit.

John Deag

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Marine biota

Basic Marine Biology by A. A. Fincham British Museum (Natural History) Cambridge University Press, £20.00 and £7.95 ISBN 0 521 26421 9 and 26960 0

"To look at animals and plants of coastlines and of the sea beyond with a fresh eye" is the aim of Fincham's introductory text for sixth-formers, first-year undergraduates and amateurs. The information likely to stimulate very much the reader: information about familiar things and the exotic bit-bits; and students will require the distillation of practical discoveries and conceptual developments reflecting recent changes in the outlook of professionals.

Fincham is well qualified for the task, having taught extramural courses in marine biology to diverse audiences. Based on those courses, his book draws on his experiences as a marine biologist in several parts of the world and as a teacher of the most demanding kind of class - the mixed bag. Selection of suitable material from the vast array of possibilities must have been difficult, made even more so by the fact that the book is about marine biology, not just the seashore.

Most items routinely covered in marine biological texts are included: the composition of seawater, its depth, temperature, circulation and tidal motion; the nature of phytoplankton and zooplankton; kinds of animals living on the sea bed and how they can be sampled; zonation of rocky shores; exigencies of life on sandy shores and in estuaries; and the commercial exploitation of marine life. However, although these subjects have had to be dealt with far more briefly than in conventional texts, some statements that might well be qualified with additional considerations sometimes seem bold and uncomplicated - for example, that the recession of sediments in estuaries is two millimetres per year.

Although such treatment will of course cause comprehension by relatively uninformed readers, brevity seems to have been achieved partly by rather crude editing, especially in the earlier chapters, leaving the impression that linking sentences have disappeared. Thus, the text sometimes jumps from one topic to another. On the other hand, other topics seem to have eluded precise, being too detailed or abstruse for their context. The consideration of torsion in gastropods is meaningless without additional information on molluscan development and phylogeny, as is the discussion of *D. and K. selection* without the necessary background in population dynamics.

Some illustrations also seem arbitrary. What is the point of schematic diagrams of a trochophore larva or a *Bougainvillea* medusa, especially without scales to indicate size? In other cases, extra detail has been used wisely, conveying the author's first-hand knowledge of Manx and New Zealand shores and his expertise in amphipod biology. Although the penultimate chapter may at first glance seem misplaced, it is the masterpiece of the book. Seldom has animal behaviour been portrayed in its present intellectual context with such enthusiasm, clarity and accuracy. The text flows with a convincing narrative, which is continued in the final chapter on biogeography. Both these chapters will teach students not only some interesting facts of marine biology, but also a great deal about biological thought itself. The concluding discussion on evolution and Darwin's ideas is superb; every sixth-form biology student should read it. This book should succeed in reaching its intended wide audience, as it provides a brief but accurate text and combines explanations of familiar things with exposure to new developments in marine biology, made all the more appealing by lovely illustrations that capture both the science and the charm of the sea and seashore.

R. N. Hughes

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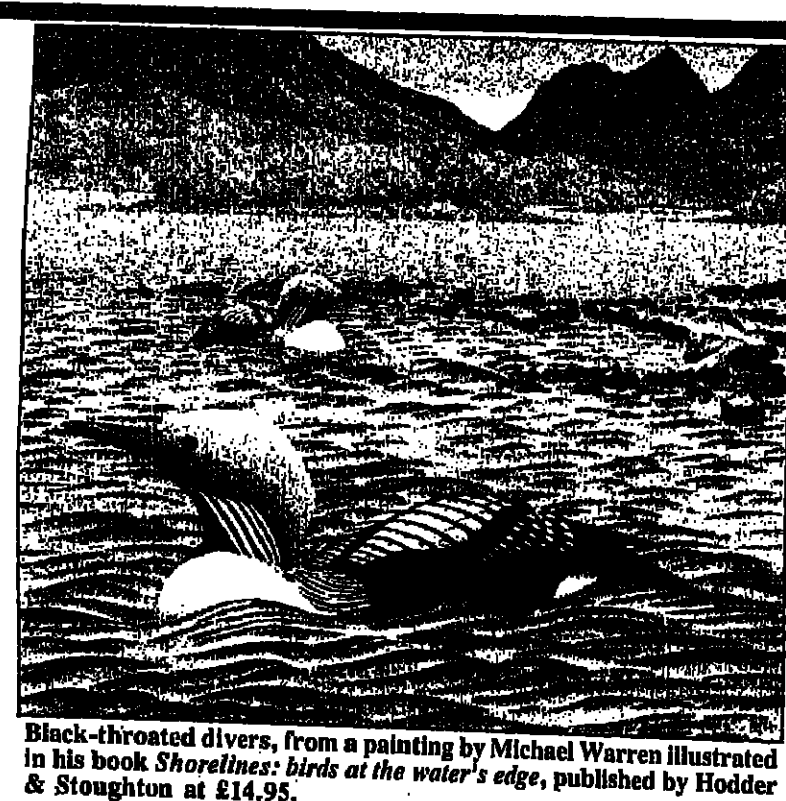
the authors fail to stick exclusively to SI units. Is it that the Systeme International is just too impractical for biologists or is the older generation just too stupid to make the effort required. The upshot is, of course, that the new generation will also feel uncertain as to what units to use.

Many interesting ideas are touched on, leaving readers to think for themselves. For instance, perhaps it is harmful to swaddle marathon runners in blankets, especially their heads, on completion of their race - it may tend to heat stroke. The exposition on adaptation acclimation and the climate of comfort (chapter seven) asks all the right questions, but once again should allow keen students to ask their own questions - for example, does acclimation to heat perse improve comfort or is this too the result of habituation?

A deliberate attempt has been made to encourage readers to take an active part in their own learning. This is a textbook that covers the ground but makes you think: the scope is catholic, the treatment detailed; and little of basic importance is left out. One general criticism is the very intensity of each chapter and each section; that every line "has 60 seconds worth of it" may be a little daunting to the novice reader. And although space is limited and the book is blessedly short, moments of light relief are scanty: the Antarctic explorer suffering from heatstroke while lying on his sled is among the best of the few.

It is not surprising, knowing the authors' areas of expertise, that as well as man the pig and piglet play prominent roles, so that students of animal as well as human physiology will find the text relevant and interesting. It is more surprising, however, that the curious story of enhanced cold-induced vasodilation (increased diameter of blood vessels) being biologically advantageous to the fishmonger handling ice-cold fish is uncritically perpetuated. This is not a case of teleology - the lover with whom all physiologists like to live but with whom few like to be seen? Nor can it be that cold-induced vasodilation occurs "all over the body", as it is a specialized phenomenon confined to particular regions of skin. And there are one or two other small queries: do capillaries dilate actively or merely respond to dilation elsewhere? Can workload be expressed in Newtons? Can workload be frictional force applied to the flywheel of all sorts of mechanically worked ergometers? It is a pity that these audience 'for whom' the book is intended, are given printed credence.

However, the pedantic aside, this is a splendid book. Aimed at a particular audience of first-year and second-year undergraduates. **Rainer Goldsmith** Rainer Goldsmith is professor of physiology at Chelsea College, London.



Black-throated divers, from a painting by Michael Warren illustrated in his book *Shorelines: birds at the water's edge*, published by Hodder & Stoughton at £14.95.

Keeping warm

Energy Balance and Temperature Regulation by M. W. Stanner, L. E. Mount and J. Bligh Cambridge University Press, £17.50 and £7.50 ISBN 0 521 25827 8 and 27722 2

The three authors of this book, all authorities in their field, have distilled their knowledge into a most readable and assimilable form. In ten brief, but not insubstantial, chapters the subjects covered range from the physical principles of heat exchange to fever, and from the measurement and definition of basal metabolic rate to what limits exercise. A discussion on whether basal metabolic rate is proportional to surface area - that is, mass raised to the power of 0.67, or as many would have it raised to the power of 0.75 - is in fact relegated for practical purposes to the realm of angels dancing on the points of needles.

The chapter on the physical principles of heat exchange is particularly clear. Here is a subject to which biologists can soon drown in a quagmire of unfamiliar and uninvolved mathematics. Here the description is verbal with but a few simple formulae and examples taken from man and other animals. Inevitably, however,

R. G. Scurlock

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Freezing points

Matter at Low Temperatures by P. V. E. McClintock, D. J. Meredith and J. K. Wigmore Blackie, £19.75 and £10.25 ISBN 0 216 91594 5 and 91593 7

The technology of producing and using low temperatures is generally called cryogenics, a term that arises from the old-established word cryogen, defined as a freezing mixture for obtaining temperatures below 0°C. Since cryogenics (gases and liquids) at temperatures below ambient suffer influxes of heat by the various mechanisms of conduction, convection and radiation, and thereby have common behaviours at all temperatures below those of their surroundings, it follows that cryogenics should refer to all temperatures below the ambient temperature. Only common usage will determine whether this definition is acceptable. The use of the prefix "cryo-" in disciplines such as cryobiology, cryosurgery, cryology and so on is in any case close to accepting this definition by common usage.

In this comprehensive introduction to the physics of low temperatures, the authors have chosen in some 250 pages to concentrate their attention on matter - gases, liquids and solids - at temperatures below 20 degrees Kelvin, the normal boiling point of liquid hydrogen. This is because the authors are physicists and the majority of low-temperature physics to date has been concentrated on the temperature range below 20 degrees Kelvin. And it is in this temperature region that quantum effects in aggregate matter are easy to study and that they reveal themselves in dramatic form by the phenomena of superfluidity and superconductivity. The book does not, therefore, cover the cryogenic behaviour of matter.

The book is aimed at undergraduates and graduates and at scientists who wish to know more about low-temperature physics. Familiarity with the concepts of quantum and statistical mechanics, including the Bose-Einstein and Fermi-Dirac distribution functions would be useful for gaining an understanding of the mathematical models of order/disorder phenomena, superconductivity and superfluidity. However, readers could skip over the mathematics without getting lost, because the authors have succeeded very well in emphasizing physical concepts at the expense of mathematical detail. Short lists of references for further reading are also presented at the ends of each chapter.

After setting the scene with a concise chapter on lattice vibrations and

events
The British Library reference division will be closed for the annual cleaning and checking from October 29 to November 1 inclusive.
This covers reader admission office, reading room, north library and north library gallery, official publications library, map library, and the newspaper library at Colindale.
The Oriental reading room will close from October 22 to 27 and the manuscripts students' room from November 5 to 10.

A national conference designed to advance the controversy about the size and character of higher education provision up to the end of the century is being held at Bradford College, Regent's Park, London on October 23, under the chairmanship of Peter Sall, editor of *The Times*. Further details from the conference organizers, Maggie House, Queen's Road, Clifton, Bristol BS8 1QX, or on 0272 8034. Contact Clive Stephens.

An Anglo-German conference on guidance and counselling is to be held at the Royal Holloway College from September 18 to 20. The keynote address will be by Brian Thorne, co-leader of the British delegation and director of counselling at UEA, on the theme "An arm of the state or in defence of personal freedom?"

"Youth, Unemployment and Schooling" is the title of a three-day conference to be held at Westhill College, Selby, on 30, 31 and 1 October. Full details and application forms may be had from the Administrative Office, International Sociology of Education Conference, PO Box 25, Abingdon, Oxfordshire OX14 3UE.

King's College, London, has announced three new administrative appointments: Mr D. O. Hall has been made finance officer; Mr R. E. Sutter becomes academic registrar; and Mr D. G. Law takes over as librarian.

Strathclyde University's new bursar is to be Mr John Austin, currently accountant at the University of Wales Institute of Science and Technology.

Open University viewing

Saturday September 22

08.00 Discovering Physics. About stars: the physics of white dwarfs (S271; prog 10).
08.15 The Earth's Structure. About the Earth's interior (S272; prog 11).
08.30 The Earth's Surface. About the Earth's surface (S273; prog 12).
08.45 The Earth's Atmosphere. About the Earth's atmosphere (S274; prog 13).
09.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S275; prog 14).
09.15 The Earth's Biosphere. About the Earth's biosphere (S276; prog 15).
09.30 The Earth's Geosphere. About the Earth's geosphere (S277; prog 16).
09.45 The Earth's Lithosphere. About the Earth's lithosphere (S278; prog 17).
10.00 The Earth's Pedosphere. About the Earth's pedosphere (S279; prog 18).
10.15 The Earth's Atmosphere. About the Earth's atmosphere (S280; prog 19).
10.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S281; prog 20).
10.45 The Earth's Biosphere. About the Earth's biosphere (S282; prog 21).
11.00 The Earth's Geosphere. About the Earth's geosphere (S283; prog 22).
11.15 The Earth's Lithosphere. About the Earth's lithosphere (S284; prog 23).
11.30 The Earth's Pedosphere. About the Earth's pedosphere (S285; prog 24).
11.45 The Earth's Atmosphere. About the Earth's atmosphere (S286; prog 25).
12.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S287; prog 26).
12.15 The Earth's Biosphere. About the Earth's biosphere (S288; prog 27).
12.30 The Earth's Geosphere. About the Earth's geosphere (S289; prog 28).
12.45 The Earth's Lithosphere. About the Earth's lithosphere (S290; prog 29).
13.00 The Earth's Pedosphere. About the Earth's pedosphere (S291; prog 30).
13.15 The Earth's Atmosphere. About the Earth's atmosphere (S292; prog 31).
13.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S293; prog 32).
13.45 The Earth's Biosphere. About the Earth's biosphere (S294; prog 33).
14.00 The Earth's Geosphere. About the Earth's geosphere (S295; prog 34).
14.15 The Earth's Lithosphere. About the Earth's lithosphere (S296; prog 35).
14.30 The Earth's Pedosphere. About the Earth's pedosphere (S297; prog 36).
14.45 The Earth's Atmosphere. About the Earth's atmosphere (S298; prog 37).
15.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S299; prog 38).
15.15 The Earth's Biosphere. About the Earth's biosphere (S300; prog 39).
15.30 The Earth's Geosphere. About the Earth's geosphere (S301; prog 40).
15.45 The Earth's Lithosphere. About the Earth's lithosphere (S302; prog 41).
16.00 The Earth's Pedosphere. About the Earth's pedosphere (S303; prog 42).
16.15 The Earth's Atmosphere. About the Earth's atmosphere (S304; prog 43).
16.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S305; prog 44).
16.45 The Earth's Biosphere. About the Earth's biosphere (S306; prog 45).
17.00 The Earth's Geosphere. About the Earth's geosphere (S307; prog 46).
17.15 The Earth's Lithosphere. About the Earth's lithosphere (S308; prog 47).
17.30 The Earth's Pedosphere. About the Earth's pedosphere (S309; prog 48).
17.45 The Earth's Atmosphere. About the Earth's atmosphere (S310; prog 49).
18.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S311; prog 50).
18.15 The Earth's Biosphere. About the Earth's biosphere (S312; prog 51).
18.30 The Earth's Geosphere. About the Earth's geosphere (S313; prog 52).
18.45 The Earth's Lithosphere. About the Earth's lithosphere (S314; prog 53).
19.00 The Earth's Pedosphere. About the Earth's pedosphere (S315; prog 54).
19.15 The Earth's Atmosphere. About the Earth's atmosphere (S316; prog 55).
19.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S317; prog 56).
19.45 The Earth's Biosphere. About the Earth's biosphere (S318; prog 57).
20.00 The Earth's Geosphere. About the Earth's geosphere (S319; prog 58).
20.15 The Earth's Lithosphere. About the Earth's lithosphere (S320; prog 59).
20.30 The Earth's Pedosphere. About the Earth's pedosphere (S321; prog 60).
20.45 The Earth's Atmosphere. About the Earth's atmosphere (S322; prog 61).
21.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S323; prog 62).
21.15 The Earth's Biosphere. About the Earth's biosphere (S324; prog 63).
21.30 The Earth's Geosphere. About the Earth's geosphere (S325; prog 64).
21.45 The Earth's Lithosphere. About the Earth's lithosphere (S326; prog 65).
22.00 The Earth's Pedosphere. About the Earth's pedosphere (S327; prog 66).
22.15 The Earth's Atmosphere. About the Earth's atmosphere (S328; prog 67).
22.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S329; prog 68).
22.45 The Earth's Biosphere. About the Earth's biosphere (S330; prog 69).
23.00 The Earth's Geosphere. About the Earth's geosphere (S331; prog 70).
23.15 The Earth's Lithosphere. About the Earth's lithosphere (S332; prog 71).
23.30 The Earth's Pedosphere. About the Earth's pedosphere (S333; prog 72).
23.45 The Earth's Atmosphere. About the Earth's atmosphere (S334; prog 73).
24.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S335; prog 74).
24.15 The Earth's Biosphere. About the Earth's biosphere (S336; prog 75).
24.30 The Earth's Geosphere. About the Earth's geosphere (S337; prog 76).
24.45 The Earth's Lithosphere. About the Earth's lithosphere (S338; prog 77).
25.00 The Earth's Pedosphere. About the Earth's pedosphere (S339; prog 78).
25.15 The Earth's Atmosphere. About the Earth's atmosphere (S340; prog 79).
25.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S341; prog 80).
25.45 The Earth's Biosphere. About the Earth's biosphere (S342; prog 81).
26.00 The Earth's Geosphere. About the Earth's geosphere (S343; prog 82).
26.15 The Earth's Lithosphere. About the Earth's lithosphere (S344; prog 83).
26.30 The Earth's Pedosphere. About the Earth's pedosphere (S345; prog 84).
26.45 The Earth's Atmosphere. About the Earth's atmosphere (S346; prog 85).
27.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S347; prog 86).
27.15 The Earth's Biosphere. About the Earth's biosphere (S348; prog 87).
27.30 The Earth's Geosphere. About the Earth's geosphere (S349; prog 88).
27.45 The Earth's Lithosphere. About the Earth's lithosphere (S350; prog 89).
28.00 The Earth's Pedosphere. About the Earth's pedosphere (S351; prog 90).
28.15 The Earth's Atmosphere. About the Earth's atmosphere (S352; prog 91).
28.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S353; prog 92).
28.45 The Earth's Biosphere. About the Earth's biosphere (S354; prog 93).
29.00 The Earth's Geosphere. About the Earth's geosphere (S355; prog 94).
29.15 The Earth's Lithosphere. About the Earth's lithosphere (S356; prog 95).
29.30 The Earth's Pedosphere. About the Earth's pedosphere (S357; prog 96).
29.45 The Earth's Atmosphere. About the Earth's atmosphere (S358; prog 97).
30.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S359; prog 98).
30.15 The Earth's Biosphere. About the Earth's biosphere (S360; prog 99).
30.30 The Earth's Geosphere. About the Earth's geosphere (S361; prog 100).
30.45 The Earth's Lithosphere. About the Earth's lithosphere (S362; prog 101).
31.00 The Earth's Pedosphere. About the Earth's pedosphere (S363; prog 102).
31.15 The Earth's Atmosphere. About the Earth's atmosphere (S364; prog 103).
31.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S365; prog 104).
31.45 The Earth's Biosphere. About the Earth's biosphere (S366; prog 105).
32.00 The Earth's Geosphere. About the Earth's geosphere (S367; prog 106).
32.15 The Earth's Lithosphere. About the Earth's lithosphere (S368; prog 107).
32.30 The Earth's Pedosphere. About the Earth's pedosphere (S369; prog 108).
32.45 The Earth's Atmosphere. About the Earth's atmosphere (S370; prog 109).
33.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S371; prog 110).
33.15 The Earth's Biosphere. About the Earth's biosphere (S372; prog 111).
33.30 The Earth's Geosphere. About the Earth's geosphere (S373; prog 112).
33.45 The Earth's Lithosphere. About the Earth's lithosphere (S374; prog 113).
34.00 The Earth's Pedosphere. About the Earth's pedosphere (S375; prog 114).
34.15 The Earth's Atmosphere. About the Earth's atmosphere (S376; prog 115).
34.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S377; prog 116).
34.45 The Earth's Biosphere. About the Earth's biosphere (S378; prog 117).
35.00 The Earth's Geosphere. About the Earth's geosphere (S379; prog 118).
35.15 The Earth's Lithosphere. About the Earth's lithosphere (S380; prog 119).
35.30 The Earth's Pedosphere. About the Earth's pedosphere (S381; prog 120).
35.45 The Earth's Atmosphere. About the Earth's atmosphere (S382; prog 121).
36.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S383; prog 122).
36.15 The Earth's Biosphere. About the Earth's biosphere (S384; prog 123).
36.30 The Earth's Geosphere. About the Earth's geosphere (S385; prog 124).
36.45 The Earth's Lithosphere. About the Earth's lithosphere (S386; prog 125).
37.00 The Earth's Pedosphere. About the Earth's pedosphere (S387; prog 126).
37.15 The Earth's Atmosphere. About the Earth's atmosphere (S388; prog 127).
37.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S389; prog 128).
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38.15 The Earth's Lithosphere. About the Earth's lithosphere (S392; prog 131).
38.30 The Earth's Pedosphere. About the Earth's pedosphere (S393; prog 132).
38.45 The Earth's Atmosphere. About the Earth's atmosphere (S394; prog 133).
39.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S395; prog 134).
39.15 The Earth's Biosphere. About the Earth's biosphere (S396; prog 135).
39.30 The Earth's Geosphere. About the Earth's geosphere (S397; prog 136).
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40.00 The Earth's Pedosphere. About the Earth's pedosphere (S399; prog 138).
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40.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S401; prog 140).
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41.15 The Earth's Lithosphere. About the Earth's lithosphere (S404; prog 143).
41.30 The Earth's Pedosphere. About the Earth's pedosphere (S405; prog 144).
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42.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S407; prog 146).
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53.15 The Earth's Lithosphere. About the Earth's lithosphere (S452; prog 191).
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55.00 The Earth's Pedosphere. About the Earth's pedosphere (S459; prog 198).
55.15 The Earth's Atmosphere. About the Earth's atmosphere (S460; prog 199).
55.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S461; prog 200).
55.45 The Earth's Biosphere. About the Earth's biosphere (S462; prog 201).
56.00 The Earth's Geosphere. About the Earth's geosphere (S463; prog 202).
56.15 The Earth's Lithosphere. About the Earth's lithosphere (S464; prog 203).
56.30 The Earth's Pedosphere. About the Earth's pedosphere (S465; prog 204).
56.45 The Earth's Atmosphere. About the Earth's atmosphere (S466; prog 205).
57.00 The Earth's Hydrosphere. About the Earth's hydrosphere (S467; prog 206).
57.15 The Earth's Biosphere. About the Earth's biosphere (S468; prog 207).
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57.45 The Earth's Lithosphere. About the Earth's lithosphere (S470; prog 209).
58.00 The Earth's Pedosphere. About the Earth's pedosphere (S471; prog 210).
58.15 The Earth's Atmosphere. About the Earth's atmosphere (S472; prog 211).
58.30 The Earth's Hydrosphere. About the Earth's hydrosphere (S473; prog 212).
58.45 The Earth's Biosphere. About the Earth's biosphere (S474; prog 213).
59.00 The Earth's Geosphere. About the Earth's geosphere (S475; prog 214).
59.15 The Earth's Lithosphere. About the Earth's lithosphere (S476; prog 215).
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62.00 The Earth's Geosphere. About the Earth's geosphere (S487; prog 226).
62.15 The Earth's Lithosphere. About the Earth's lithosphere (S

America should also send a copy of their application to the Association of Commonwealth Universities (App 56 Gordon Square, London WC1H 0PF, from whom further details are available (02054).

Polytechnics continued

The Polytechnic of North London
Department of Language & Literature
PART-TIME TEACHER

Salary: £13.19 per hour. The successful candidate will be responsible for the teaching of French, Italian, Spanish, Portuguese, German, Russian, Polish, Czech, Slovak, Hungarian, and other languages. The successful candidate will be expected to teach some first and second year language classes and to contribute to a first year modern literature course.

Polytechnic of the South Bank
Borough Road, London SE1 0AA
Department of Home Economics and Consumer Studies
LECTURER II/ SENIOR LECTURER IN TEXTILES AND CLOTHING

(Ref: HED1) Applications are invited for the above post to join a team developing an integrated design approach relating fashion and technology in the teaching of textiles and clothing. Candidates should be graduates with qualifications in textiles and clothing, and experience would be desirable as well as industrial practice. The successful candidate will be expected to contribute to design, construction and the knowledge of materials aspects of courses.

Textiles and clothing are important parts of the course and the successful candidate is expected to teach on both the new B.A. (Hons) Textiles and Clothing course and on the new B.A. (Hons) Textiles and Clothing course. The successful candidate will be expected to contribute to design, construction and the knowledge of materials aspects of courses.

Salary will be in the range: Lecturer II £8,203 (£ x 10) - £11,570 (£ x 15) - £14,936 (£ x 20) inclusive of London Allowance.

Further details and application forms available from the Staffing Office, Tel: 01-598 9595, Ext. 2535. Closing date: October 5th 1984.

The Polytechnic is an Equal Opportunities Employer. H3

North Staffordshire Polytechnic
Department of Computing
RESEARCH ASSISTANT

Salary: £4,947 - £5,649 per annum. Applications are invited for the post of Research Assistant in the Department of Computing. The successful candidate will be expected to assist in the development of a language and functional programming tool for the writing of expert systems.

Candidates will hold or be expected to hold a first degree in Computing, or a similar qualification, and will be expected to register as a Research Assistant with the M.Phil./Ph.D. for an initial period of two years with the possibility of an extension for a further year.

Application forms and further particulars are available from the Staffing Office, Tel: 01-598 9595, Ext. 2535. Closing date: 13 October 1984. H3

Teesside Polytechnic
Department of Chemistry
PRINCIPAL LECTURER IN INORGANIC CHEMISTRY

Applications are invited for the above post to join a team of well-qualified persons for the teaching of Inorganic Chemistry. The person appointed will be expected to contribute to the teaching of inorganic chemistry and to supervise research.

Salary: £12,519 - £13,936 per annum. Further details and application forms available from the Staffing Office, Tel: 01-598 9595, Ext. 2535. Closing date: 13 October 1984. H3

North Staffordshire Polytechnic
Department of Mechanical & Civil Engineering
RESEARCH ASSISTANT

Salary: £4,947 - £5,649 per annum. Applications are invited for the post of Research Assistant in the Department of Mechanical & Civil Engineering. The successful candidate will be expected to assist in the development of a language and functional programming tool for the writing of expert systems.

Polytechnic of the South Bank
Borough Road, London SE1 0AA
Department of Home Economics and Consumer Studies
LECTURER II/ SENIOR LECTURER IN TEXTILES AND CLOTHING

(Ref: HED1) Applications are invited for the above post to join a team developing an integrated design approach relating fashion and technology in the teaching of textiles and clothing. Candidates should be graduates with qualifications in textiles and clothing, and experience would be desirable as well as industrial practice. The successful candidate will be expected to contribute to design, construction and the knowledge of materials aspects of courses.

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Salary: £12,519 - £13,936 per annum. Further details and application forms available from the Staffing Office, Tel: 01-598 9595, Ext. 2535. Closing date: 13 October 1984. H3

ilea Inner London Education Authority

PRINCIPAL SOUTH-EAST LONDON COLLEGE

Applications are invited for the post of Principal of South-East London College to commence on 1st January 1985, or as soon as possible thereafter. The college is organised into nine departments: Academic Studies; Business and Administrative Studies; Construction; Electrical and Electronic Engineering; Engineering Production Services; Hotel and Catering Studies; Mechanical and Industrial Engineering; Office Studies. Premises are located on five college sites in the London Boroughs of Lewisham, Greenwich and Bromley, with headquarters in Lewisham Way, Lewisham, SE4. Applicants should be well qualified academically, possess a sound knowledge of Further and Higher Education, together with teaching and administrative experience at a senior level and relevant experience in industry or commerce. Under the provisions of the Burnham (Further Education) Report, the College is in Group 9 and the salary for the post of Principal is £24,522 plus £987 London Allowance (Salary under review). Further information and application forms (to be returned by 12 October 1984) may be obtained from the Education Office (EO/FE-4) Inner London Education Authority, Room 257a, The County Hall, London SE1 7PB. This is a re-advertisement. ILEA is an equal opportunities employer. (19804)

CROYDON COLLEGE

FAIRFIELD, CROYDON CR9 1DX
Tel: 01-888 9271

Assistant Head of Faculty of Business and Social Studies

The Faculty provides a wide range of courses in Management, Professional and Business Studies, Home Economics, Community Health and Social Work, and Secretarial Studies. There are c. 2,600 students and c. 85 full time staff. 60% of the work is advanced. The Assistant Head will initially manage the Community Health and Social Work groups; carry out the necessary supervisory and administrative tasks; liaise within and outside the College; assist the Head of Faculty in the overall faculty management. Applicants must have proven administrative ability and sound academic qualifications. A good knowledge of one or both of the subjects above is desirable, together with experience in Further Education. The salary for this full time GRADE V post is in accordance with the current Burnham Further Education Award and is at present: £16,035 - £17,736 p.a. including London Weighting Allowance. Further details and application forms may be obtained from the Assistant Principal (Personnel) Croydon College, Fairfield, Croydon, CR9 1DX, to whom completed application forms should be returned within 14 days of the appearance of this advertisement. (16822)

Cornwall College of Further & Higher Education
Redruth, Cornwall
Faculty of Art & Design
LECTURER GRADE I IN GRAPHIC DESIGN

Applications are sought for the post of Lecturer in Graphic Design. The successful candidate will be expected to teach on the B.A. (Hons) Graphic Design course and to supervise research. The successful candidate will be expected to contribute to the teaching of graphic design and to supervise research.

Salary: £12,519 - £13,936 per annum. Further details and application forms available from the Staffing Office, Tel: 01-598 9595, Ext. 2535. Closing date: 13 October 1984. H3

South West London College
Inner London Education Authority
HEAD OF DEPARTMENT OF ACCOUNTANCY AND ADMINISTRATIVE STUDIES

Applications are invited for the post of Head of Department of Accountancy and Administrative Studies. The successful candidate will be expected to manage the department and to supervise research. The successful candidate will be expected to contribute to the teaching of accountancy and administrative studies and to supervise research.

Salary: £12,519 - £13,936 per annum. Further details and application forms available from the Staffing Office, Tel: 01-598 9595, Ext. 2535. Closing date: 13 October 1984. H3

Cornwall College of Further & Higher Education
Redruth, Cornwall
Faculty of Art & Design
LECTURER GRADE I IN DRAWING

Applications are sought for the post of Lecturer in Drawing. The successful candidate will be expected to teach on the B.A. (Hons) Drawing course and to supervise research. The successful candidate will be expected to contribute to the teaching of drawing and to supervise research.

Colleges and Institutes of Higher Education continued

HUMBERSIDE COLLEGE OF HIGHER EDUCATION
HUMBERSIDE SOCIAL SERVICE



Research Officer in Social Work (2-year appointment)

Applications are invited for the post of Research Officer in Social Work. This newly created post is a joint appointment between Humberside Social Service and the School of Applied Social Studies at Humberside College. The successful applicant will undertake research work at the initiative of Social Services and the College. Much of this research will involve examining aspects of service provision within the context of Social Services reorganisation. In addition the person appointed will be expected to make a small teaching contribution to courses in the School of Applied Social Studies and in-service training courses. The successful applicant will be a graduate, preferably the holder of a social work qualification, and have knowledge and experience of relevant research methods and techniques. Salary: £8,658 - £9,231. Application forms and further details from: The Personnel Office, Humberside College of Higher Education, Cottingham Road, Hull HU6 7RT. Tel: 0482 21481, Ext. 393. Closing date 8th October 1984. (16802)

HUMBERSIDE COLLEGE of Higher Education

WESTHILL COLLEGE

The Governors and Trustees of Westhill College invite applications from suitably qualified men or women for the post of

PRINCIPAL

from 1st May 1985 (or as soon as possible after that date). Westhill College is an Affiliated College of the University of Birmingham and a member of the Federation of Selly Oak Colleges. The areas of work in the College include Teacher Education and Training, Community and Youth Work, and Church Education. The College is developing a scheme of academic collaboration with its near neighbour in Birmingham, Newman College, a Catholic College, in a way that will retain the identity of each institution. There are at present about 180 men and 330 women students. The College, founded in 1907 under the sponsorship of the Free Churches, maintains a strong Christian tradition, with which the Principal would be expected to be fully in sympathy. The vacancy arises from the appointment of the Principal, Mr. Alan G. Bamford, to the Principalship of Homerton College, Cambridge. The salary will be on the Burnham F.E. scale for a Group 5 College, i.e. in the range £19,548 - £20,544, currently subject to review. A Principal's House near to the College is provided. Particulars are available from the Clerk to the Governors, Westhill College, Hamilton Building, Woolley Park Road, Selly Oak, Birmingham, B29 6LL. (021-472 7246). The closing date for applications is 12th October, 1984. (16808)

DERBYSHIRE COLLEGE OF HIGHER EDUCATION

LECTURER GRADE II/ SENIOR LECTURER IN ENGINEERING DESIGN

Applications are invited from suitably qualified candidates to teach Engineering Design and associated subjects to a range of degree and non-degree courses. The successful candidate will be expected to participate in research related to modern developments in this field. Salary: Lecturer Grade II - £7,215-£11,568. Senior Lecturer - £10,889-£12,682-£13,443. Application forms and further particulars from the Staffing Office, Derbyshire College of Higher Education, Kedleston Road, Derby DE3 1GB, telephone 0332 47181, to whom completed forms should be returned by Monday, 15th October 1984. (16809)

College of St. Mark & St. John

(Creative Design & Technology)
Lecturer/Senior Lecturer

DESIGN EDUCATION
with expertise principally in graphics and modelling, a working knowledge of computer constructional methods and an awareness of how design and making activities might contribute to the development of children. In addition to the B.E. (Hons) subject group contributes to the new B.A. (Hons) Design and Community Design courses. Consequently the person appointed will be required to participate actively in exploring the Arts and Industrial Design as elements of an environmental and community based course. Evidence of any previous similar involvement would be a distinct advantage. For further details and application forms please contact the Principal Secretary, College of St. Mark and St. John (Herts), Bedford Road, Plymouth PL4 8AB. 07577 77118 Ext. 216. (16810)

PLEASE MENTION THE T.H.E.S. when replying to advertisements

Colleges and Institutes of Higher Education continued

HEAD OF DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING (GRADE V)

Salary £15,390 - £17,091

Applicants should hold a degree or higher degree in a discipline directly relevant to the work of the Department and be corporate members of an appropriate professional institution. The successful candidate will have demonstrated the potential to take the Department into the post Finniston/continuing education/micro-electronic period ahead and an ability to manage a group of highly qualified engineers. The Department is part of the Faculty of Engineering and has strong links with the Departments of Civil Engineering and Building and Mechanical Engineering. Further details and application forms may be obtained from the Deputy Registrar, to whom completed applications should be returned by 2nd October 1984.

BOLTON INSTITUTE OF HIGHER EDUCATION
Deane Road, BOLTON BL3 5AB
Tel: Bolton (0204) 28851

Roehampton Institute

Digby Stuart
Froebel
Southlands
Whitlands

The Governing Body of SOUTHLANDS COLLEGE (Methodist Division of Education and Youth) invites applications for the post of

PRINCIPAL

as from 1st September, 1985

The post will become vacant upon the retirement of Mr Douglas Milbank. Salary on appointment will be in the range £18,882 - £20,577, equivalent to that under Burnham to a Grade VI Head of Department enhanced by £2,250 plus London weighting and residence emoluments. Particulars are available from the Clerk to the Governors, Southlands College, Wimbledon Parkside, London SW19 6NN. Tel: 01-846 2234. Closing date for applications 19th October 1984. (16877)

Roehampton Institute

Digby Stuart
Froebel
Southlands
Whitlands

WHITELANDS COLLEGE

The College Governors seek to appoint from 1st April 1985 if possible a suitably qualified communicant member of the Church of England as the

PRINCIPAL of Whitelands College

a Voluntary Church of England College of Higher Education, and one of the four federated Colleges of the Roehampton Institute, offering a wide range of undergraduate and post-graduate courses validated by the University of Surrey. The Principal is required to be resident. Salary: in the range £18,882 - £20,577 p.a. with London Allowance £987 p.a. Full details of the post and application forms may be obtained from the Clerk to the Governors (Miss Brenda Robinson) at Whitelands College, West Hill, London SW15 3BN. (Tel: 01-788 8288). Closing date for applications: 22nd October, 1984. (16816)

HUMBERSIDE COLLEGE OF HIGHER EDUCATION

Applications are invited for the following key post:

HEAD OF SCHOOL OF ENGINEERING

Grade VI: £16,632 - £18,327

Further particulars and application form from: The Personnel Office, Humberside College of Higher Education, Cottingham Road, Hull HU6 7RT. Telephone: 0482 448506. Closing date: 5th October 1984.

HUMBERSIDE COLLEGE

Christ Church College of Higher Education Canterbury

Applications are invited for the following posts vacant from 1 January 1985:

ADMISSIONS TUTOR

To be responsible for the recruitment of students and the quality of college courses.

The holders of the posts will contribute to the teaching programme of the college. The college has approximately 100 students and offers BA, BSc, and other degrees. Advanced diploma and MA, MPhil and PhD degrees.

Salary scale: Senior Lecturer £10,685-£14,061. For further details write to Mrs. A. Long, Personal Assistant to the Principal, Christ Church College, Canterbury. enclosing a stamped addressed envelope with applications. Applications should be sent not later than 15th October 1984. H3

Librarians

The University of Sheffield

THE LIBRARIANSHIP

Applications are invited for the University Librarianship which will involve the supervision of the University Library. The successful candidate will be expected to contribute to the development of the library and to supervise research. The successful candidate will be expected to contribute to the teaching of library studies and to supervise research.

Salary on the Grade IV scale (minimum £11,375 a year). Particulars from the Registrar and Secretary of the University of Sheffield, Sheffield S10 2TN. Applications should be sent by 15 October 1984. H3

Edinburgh University Library

MEDICAL LIBRARIAN

Applications are invited from suitably qualified applicants for the post of Medical Librarian (Medical Librarian) in the University Library. The successful candidate will be expected to contribute to the development of the library and to supervise research. The successful candidate will be expected to contribute to the teaching of library studies and to supervise research.

Salary: £10,685 - £14,061. Further details and application forms available from the Registrar and Secretary of the University of Edinburgh, Edinburgh. Applications should be sent by 15 October 1984. H3

West Sussex Institute of Higher Education

(Incorporating Bishop Otter College, Chichester and Bognor Regis College)

PRINCIPAL LECTURER IN PRIMARY EDUCATION

Applications are invited from suitably qualified candidates for the post of Principal Lecturer in Primary Education. The successful candidate will be expected to contribute to the development of the college and to supervise research. The successful candidate will be expected to contribute to the teaching of primary education and to supervise research.

Salary: £10,685 - £14,061. Further details and application forms available from the Registrar and Secretary of the West Sussex Institute of Higher Education, Chichester. Applications should be sent by 15 October 1984. H3

St. Martin's School of Art

107-109 Charing Cross Road, London WC2H 0DU
Inner London Education Authority

SENIOR LECTURER FINE ART FILM AND VIDEO

Applications are invited for the post of Senior Lecturer in Fine Art Film and Video. The successful candidate will be expected to contribute to the development of the school and to supervise research. The successful candidate will be expected to contribute to the teaching of fine art film and video and to supervise research.

Salary: £10,685 - £14,061. Further details and application forms available from the Registrar and Secretary of St. Martin's School of Art, London. Applications should be sent by 15 October 1984. H3

SOMERSET Somerset College of Arts and Technology, Taunton

APPOINTMENT OF PRINCIPAL

Following the retirement of the present Principal, applications are invited for the post of Principal of this Group 7 College. Candidates should have substantial experience in industry as well as in further education and should be able to demonstrate that they have the skills and vision needed to manage a large and important college at a time when the further education service faces unique challenges. Salary: £22,911 - £23,958 (1984 Burnham pay award). Application form and further particulars (SAE) from the Staffing (T) section, Education Department, County Hall, Taunton, TA1 4DY. Closing Date, 15 October 1984.

Administration

HAILEYBURY COLLEGE HERTFORD

BURSAR

The Council of Haileybury invites applications for the post of Bursar and Secretary to the Council, the appointment to commence in June 1985 or earlier in 1985. Remuneration to be negotiated. Basic salary likely to be in the region of £20,000-£22,500 with, in addition, pension contributions, car and entertainment allowances, provision of house, school fees remission and other benefits. Full particulars available from: Captain W. R. H. Lapper, R.N., Haileybury, Hertford SG13 7NU. (020476)

The Universities Central Council on Admissions (UCCA)

GENERAL SECRETARY

Applications are invited for the post of General Secretary of UCCA at Chesham, with a salary scale of £12,519 - £14,936. The successful candidate will be expected to contribute to the development of the council and to supervise research. The successful candidate will be expected to contribute to the teaching of admissions and to supervise research.

Salary: £12,519 - £14,936. Further details and application forms available from the Registrar and Secretary of the Universities Central Council on Admissions, Chesham. Applications should be sent by 15 October 1984. H3

Research and Studentships

Lecester Polytechnic

RESEARCH ASSISTANTS/STUDENTSHIPS

Applications are invited for the post of Research Assistant in the Department of Electronic and Electrical Engineering. The successful candidate will be expected to contribute to the development of the polytechnic and to supervise research. The successful candidate will be expected to contribute to the teaching of electronic and electrical engineering and to supervise research.

Salary: £10,685 - £14,061. Further details and application forms available from the Registrar and Secretary of Leicester Polytechnic, Leicester. Applications should be sent by 15 October 1984. H3

Business Services

Applications are invited for the post of Business Services Officer. The successful candidate will be expected to contribute to the development of the college and to supervise research. The successful candidate will be expected to contribute to the teaching of business services and to supervise research.

Salary: £10,685 - £14,061. Further details and application forms available from the Registrar and Secretary of the Business Services, Taunton. Applications should be sent by 15 October 1984. H3

